USS Lead Superfund Site Factsheets

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	3/25/2020	Updated by AKM on 4/1/20
Reviewed by: Roopa Mulchandani	10/14/20	**[x]:** I reviewed this WP and found it satisfactory. (No comments were provided.) **[ ]:** I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. **[ ]:** All comments have been resolved.
Edited by:		

Purpose: To summarize factsheets distributed by the EPA and/or other partnering agencies to the community living at or near the USS Lead Superfund Site in East Chicago, Indiana.

Project Guide Step # :

Source(s):

#	Description/Title	Source Document
1	Lead Hazard Prevention in Homes Pamphlet Released, March 1996	Link: F.35 - [IP] USS Lead Factsheets - Source 3-1996-EPA-HUD Fact Sheet On Lead.pdf
2	Lead Information for Parents, 1997	Link: F.35 - [IP] USS Lead Factsheets - Source 1-EPA Fact Sheet-Lead Information for Parents.pdf
3	Fact Sheet on Blood Lead Screening, East Chicago Health Exposure Investigation, 1997	Link: F.35 - [IP] USS Lead Factsheets - FACT SHEET - BLOOD LEAD SCREENING, EAST CHICAGO HEALTH EXPOSURE INVESTIGATION.pdf
4	Update on Corrective Action Activities Under the Resource Conservation and Recovery Act (RCRA), 1998	Link: F.35 - [IP] USS Lead Factsheets - 1998-USS Lead Fact Sheet RCRA EPA Corrective Action ...pdf
5	Lead Information for Parents, 2000	Link: F.35 - [IP] USS Lead Factsheets - USS Lead Fact Sheet Health Information .. 2000.pdf
6	EPA to begin testing for lead contamination in yards, Mar 2006	Link: F.35 - [IP] USS Lead Factsheets - 03.2006-USS Lead Fact Sheet EPA Begins Testing for Lead in yards.pdf
7	EPA/IDEM Fact Sheet on the USS Lead Facility (Historical/Current), Oct 2007	Link: F.35 - [IP] USS Lead Factsheets - Source 4-2007 EPA & IDEM Joint Fact Sheet on Facility History-Current Status.pdf
8	USS Lead Superfund Site Cleanup Status, Dec 2007	Link: F.35 - [IP] USS Lead Factsheets - Information Sheet 2007.pdf
9	EPA to Begin Testing for Lead Contamination in Yards, Dec 2009	Link: F.35 - [IP] USS Lead Factsheets - 2009-USS Lead Fact Sheet_Dec.pdf
10	Protect Your Family from Lead in Your Yard, Spring 2010	Link: F.35 - [IP] USS Lead Factsheets - Lead in Yards ATSDR Spring 2010.pdf
11	EPA Proposes Cleanup Plan for Residential Area, July 2012	Link: F.35 - [IP] USS Lead Factsheets - January 2012-EPA Proposes Cleanup Plan for Residential Area.pdf
12	Agreement Helps Start Project to Clean Up Contamination, Nov 2014	Link: F.35 - [IP] USS Lead Factsheets - USSLeadFactsheetNov2014.pdf
13	EPA Takes Action to Reduce Exposure to Lead and Soil, July 2016	Link: F.35 - [IP] USS Lead Factsheets - USS Lead Mulch Fact Sheet 7-29-2016.pdf

14	Don't Let Kids Play In Dirt, USS Lead Site Zone 1 Flyer, July 2016	Link: F.35 - [IP] USS Lead Factsheets - 2016-Don't Let Kids Play In Dirt EPA Factsheet English-Spanish.pdf
15	EPA To Begin Cleaning Up Lead-Contaminated Yards, Sept 2016	Link: F.35 - [IP] USS Lead Factsheets - USS Lead EPA to Begin Cleaning Yards_Factsheet_Sept 2016_Eng.pdf
16	EPA Proposes Cleanup Plan for Residential Area, Zone 1, Nov 2018	Link: F.35 - [IP] USS Lead Factsheets - Updated FINAL USS Lead Zone 1 PP Fact Sheet 10.29.18.pdf
17	Administrative Settlement Agreement	Link: F.35 - [IP] USS Lead Factsheets - Administrative Settlement Agreement for RI-FS OU2.pdf

Scope: The details section gives an overview of the key points from the factsheets, as it relates to risk communication by the EPA and/or partnering agencies at the time, to the community living at or near the USS Lead Superfund site in East Chicago, Indiana.

Conclusion(s):
Of the 16 fact sheets reviewed, seven did not explicitly address the health risks posed by site contaminants and focused primarily on site updates, historical information, and/or clean up alternatives. The remaining fact sheets that addressed health risks due to lead exposure in some form or fashion mostly focused on sensitive groups, specifically children and pregnant women. Precautions to prevent exposure were often paired with descriptions of the health effects of lead and where lead is often found in the environment.

Details:

Source 1

Lead Hazard Prevention in Homes Pamphlet Released, March 1996

This fact sheet announces the release of a lead hazard information pamphlet to be distributed to as part of EPA/HUD regulations dealing with sales, rentals, and renovations.

A. This fact sheet discusses how about three-quarters of the nation's housing stock built before 1978 contains lead-based paint and that when it is poorly managed this is when there can be potential health risks.
B. It was developed in cooperation with HUD, CDC, CPSC, and 14 other federal agencies and is available in English and Spanish.
C. It talks about lead exposure to lead paint/dust/soil, potential health problems, and steps to protect against lead hazards.

Source 2

EPA Fact Sheet—Lead Information for Parents, 1997

This fact sheet explains why lead contamination in soil is a problem, what to do to prevent exposure, and steps to protect children.

A. Gives a background about where lead comes from, and that younger children are most seriously threatened by lead-contaminated soil because they play in the dirt.

B. Recommendations to the parents: prevent children from exposure to contaminated soil and provide them with a nutritious diet, pregnant women should seek pre-natal care

Source 3

Fact Sheet on Blood Lead Screening, East Chicago Health Exposure Investigation, 1997

The fact sheet provides information and answers community questions regarding lead exposure. It also provides background information on past activities conducted by the EPA with regards to East Chicago and potential exposure to lead, and the results of these activities.

A. In 1985, US EPA did soil sampling in areas of East Chicago to determine lead levels present in soil. Homes were selected for sampling and test results showed high levels of lead in several homes.
B. Also in 1985, the Indiana State Board of Health (ISBH), now known as the Indiana State Department of Health (ISDH), with assistance of the East Chicago Health Department (ECHD) conducted blood lead testing for children in East Chicago. 53 children between 6 months and 6 years old were tested. CDC considers children to have an elevated level if the amount of lead in the blood is at least 10 mcg/dl. Only 2 children had elevated blood lead levels between 10-20 mcg/dl.
C. Based on information collected in 1985, exposure of lead in this community do not seem to be widespread. However, it is not known whether the exposure levels of the 53 children were similar to the exposure levels of all children in the community and a definitive conclusion could not be made.
D. Some information included goes into communicating what lead is, how one can be exposed to lead, health effects related to lead exposure, how to prevent/reduce exposure to lead, what is involved with blood testing, explains that your information will be kept confidential when you do blood testing, provided information on the upcoming lead screening sessions (at the time), what one will learn from the test results, and then it lists contact information for EPA Region 5 staff, ECHD, IDEM.

Source 4

Update on Corrective Action Activities Under the Resource Conservation and Recovery Act (RCRA), 1998

The fact sheet explains the status of comment review in response to the proposed partial remedy for the USS Lead Superfund site. [Auditor's note: health risks not described] The fact sheet indicates that EPA may initiate other activities that do not interfere with the remedy selection process and defines each activity. Those activities include:

A. Hydrogeologic assessment to be used to determine placement of ground water monitoring wells.
B. Building assessment, decontamination, demolition, and separation of construction debris.
C. Moving non-hazardous construction debris material.
D. Installation of Segregation Berm to prevent potentially contaminated runoff.

Source 5

Lead Information for Parents, 2000

The fact sheet explains why lean contamination in soil is a problem and provides information, what to do to prevent exposure, and steps to protect children. [Auditor note: same content as in Source 2]

A. It describes what lead is and where it can be found naturally in the environment as well as in man-made products.

B. It describes the health effects of lead exposure (e.g. damage to kidneys) and the special risk to children.
C. It provides recommendations to parents to protect children and advises pregnant women to seek pre-natal care.
D. It outlines steps to protect children from soil ingestion, which includes limiting exposure to outdoor dirt and providing good hygiene, as well as dust ingestion through good housekeeping. It also includes recommendations regarding practicing good nutrition, reducing lead intake from water, avoiding exposure to lead paint, and altering gardening activities.

Source 6

EPA to begin testing for lead contamination in yards, Mar 2006

The fact sheet updates the audience (i.e. community residing in the affected area) of the activities that will commence, which require their permission. It also explains key terms such as lead and the potential risks to sensitive groups.

A. Soil at some East Chicago homes may be contaminated with lead and that the EPA will take test samples from residential yards to find out more.
B. The fact sheet provides some details on soil samples and notifies the reader that permission for soil samples is needed. Pictures of soil sampling included. It includes an agreement form, but also states that EPA reps will go door-to-door for permission.
C. It provides a background on the USS Lead site and the company that operated to produce lead waste. A picture of the birds-eye-view of site is included.
D. The fact sheet describes lead and the risks it poses to children, stating that they often have higher levels of exposure because they play in dirt and put dirty hands in their mouths.
E. The fact sheet also outlines steps the public can take to reduce exposure with particular attention to children and pregnant women.
F. It includes contact information for the National Lead Information Center and for EPA representatives, and includes event details for the upcoming informational meetings.

Source 7

EPA/IDEM Fact Sheet on the USS Lead Facility (Historical/Current), October 2007

The joint fact sheet informs the public of the history and the current issues at USS Lead, East Chicago, Indiana. [Auditor's note: health risks not described]

A. Facilities hazardous waste management units: calcium sulfate sludge waste piles and baghouse dust waste piles. Other source of contaminants: stack emissions from blast furnace operations, slag pile on South East wetlands, oil releases into the canal from above ground tank.
B. USS Lead subject to an IDEM interim agreed order and the US EPA requirements under a unilateral administrative order.
C. Corrective Action Management Unit (CAMU), are protective units under RCRA to facilitate treatment, storage, and disposal of hazardous waste managed for implementing cleanup.
D. In March 1996, US EPA issued a statement of basis and identified the following as the preferred remedy: alternative 1 for excavation, consolidation, and on-site disposal using CAMU.
E. Information on an upcoming public meeting and EPA and IDEM contacts included.

Source 8

USS Lead Superfund Site Cleanup Status, December 2007

The information sheet shares a brief profile of the site. [Auditor's note: health risks not described]

A. Listing the site on the NPL in 1992 was held up when the agency decided to pursue cleanup funding under another federal program (RCRA).
B. RCRA cleanups are for operating, viable facilities, so due to the USS Lead bankruptcy EPA re-evaluated the conditions at the site to determine if it was eligible for listing on the NPL.
C. Before the bankruptcy, there were several cleanup actions under RCRA, example there was the CAMU in 1996.
D. Auditor's note: this information sheet did not discuss risks at the site.

Source 9

EPA to Begin Testing for Lead Contamination in Yards, Dec 2009

The fact sheet summarizes the soil investigation, also called remedial investigation, describes USS Lead operations, and notifies the reader that soils samples will be taken from yards in East Chicago.

A. It states that EPA is conducting the study to determine areas that may need to be cleaned up.
B. Permission is needed to collect soil samples from yards in East Chicago. A map of study area included. Sampling will not cost residents anything. Pictures of soil sampling shown at the end of the fact sheet. It includes an access agreement form for residents to sign, and states that EPA reps will go door-to-door for permission.
C. The fact sheet includes investigation details, stating that soil sample collection will in occur in two phases with the second phase to be based on the results of the first (which employs a wider sampling grid).
D. Site history is included. USS Lead generated blast-furnace slag and lead-containing dust. Lead particles were found downwind of the plant and USS Lead was found in violation of state law in 1985.
E. The fact sheet provides basic information on previous site investigations, specifically the 2-acre cleanup of nearby wetlands and repeated sampling of the residential areas surrounding the USS Lead facility.
F. It describes what lead is and that can cause a range of health effects, particularly for children 6 years old and younger.
G. A callout box includes information on technical assistance grants of up to $50,000 so that citizens can hire advisors to help them better understand site-related technical information.
H. The fact sheet also outlines steps the public can take to reduce exposure with particular attention to children and pregnant women.
I. The fact sheet provides resources, contact information for EPA representatives, and event details for an upcoming informational meeting.

Source 10

ATSDR/EPA Pamphlet about Lead in Yards-Spring 2010

Provides some steps to follow to avoid exposure to lead, and states if lead gets into your body this may cause health problems. [Auditor's note: this is included twice, once on the child page and again on the gardening page].

A. For example, don't play in the bare dirt. It also provides some information on gardening, for example clean your vegetables before consuming them and don't grow root crops.
B. On the sheet the listed contact information for both EPA and ATSDR staff.
C. A green box advises reader to get their child tested for lead poisoning, explaining that children often do not look or act sick.

Source 11

EPA Proposes Cleanup Plan for Residential Area, July 2012

The fact sheet provides information to residents effected by the USS Lead site about the proposed cleanup plan and invites the public to participated in the comment process and attend a formal public meeting. [Auditor's note: the fact sheet addresses site risks, but does go into any depth regarding human health risks]

A. It explains the measures to be taken, including removing and replacing soil, and describes the location of the two operable units which comprise the site as well as the history of OU2.
B. It summarizes the site risks based on the Human Health Risk Assessment. Touching soil, inhaling particles of soil, swallowing lead from produce from home gardens, or failing to wash hands between yard work and eating are the pathways to exposure.
C. The USS Lead Refinery Inc. was a primary lead smelter that generated blast furnace slag and lead-containing dust as waste materials. All of the dust was not contained as particles were found in the environment. State and federal actions were taken against the company in the 1980s.
D. Previous investigations included repeated sampling of OU1 has taken place over the years which culminated into an emergency cleanup in 2008.
E. The fact sheet presented three cleanup alternatives: no action (point of comparison), on-site soil cover, and excavation of soil and/or sand for off-site disposal with ex-situ treatment. EPA recommended alternative 4A (excavation of soil and ex-situ treatment options) and includes evaluation criteria used.
F. A chart comparing cleanup options, aerial view of the superfund site, textboxes describing the two contaminants of concern and other terms are included.
G. Public meeting and EPA staff information included.

Source 12

Agreement Helps Start Project to Clean Up Contamination, Nov 2014

The fact sheet provides information on the agreement between EPA and PRPs for the cleanup project set to take place in the Calumet neighborhood, part of the USS Lead Superfund site. [Auditor's note: health risks not described]

A. The EPA agreed to clean up Zone 1 and Zone 3. The fact sheet goes on to describe the planning and design work to take place as well as other activities such as soil sampling, meeting with property owners to discuss cleanup details, and soil removal and replacement.
B. The fact sheet also defines operable units and goes on to provide site location details and history of the Superfund site. It also provides event details for the two informational meetings in the neighborhood that the public could attend and contact information.
C. Public meeting and EPA staff information included.

Source 13

EPA Takes Action to Reduce Exposure to Lead and Soil, July 2016

The fact sheet describes EPA's efforts to protect residents from lead-contaminated soil in the West Calumet Housing Complex in East Chicago. [Auditor's note: health risks not described in detail, but are alluded to through advice to prevent exposure]

A. Actions taken include installation of raised plastic edging with mulch at playgrounds, covering bare dirt in residential yard with mulch, removal of contaminated soil from yards with the highest lead levels, and collecting dust samples to determine whether contamination is in homes.
B. The fact sheet includes ATSDR advice for parents to prevent contaminant exposure of children as well as a contact number for residents to have their children's lead levels tested.
C. It also includes resources for child exposure prevention, the history of the Superfund site, and EPA team member contacts.
D. EPA and CDC contact information included.

Source 14

Don’t Let Kids Play In Dirt, USS Lead Site Zone 1 Flyer, July 2016

The flyer highlights steps that can prevent lead exposure. An accompanying illustration appears above each step.

A. The flyer describes what lead is and that is present in the WCHC community. It also presents the health risks associated with exposure. It then provides a more detailed bulleted list of preventative measures to minimize exposure that includes measures specific to families and children.
B. The flyer includes contact information for EPA and ATSDR staff and provide a number to call for blood testing of children.
C. The same information is also provided in Spanish.

Source 15

EPA To Begin Cleaning Up Lead-Contaminated Yards, Sept 2016

The fact sheet summarizes results of soil testing for two of the three zones of the Superfund sites in East Chicago. [Auditor’s note: risk is not addressed in this fact sheet. The audience is the community effected by the site]

A. Zone 3: EPA and the state of Indiana reach agreement with Atlantic Richfield Co. and E.I. Du Pont De Nemours and Co. to fund cleanup. The section describes upcoming cleanup approach and steps. EPA will meet with property owners prior to beginning work.
B. Zone 2: EPA began testing properties to develop an engineering plan in the summer and plans to begin clean up in the fall. EPA will notify residents of sample results when final.
C. It describes the two operable units and includes a photo of OU1, which has its own cleanup plan that EPA finalized in 2012.
D. Contact information for EPA team members included.

Source 16

EPA Proposes Cleanup Plan for Residential Area, Zone 1, Nov 2018

The fact sheet summarizes the technically written proposed plan and other site-related environmental reports. [Auditor’s note: health risks not described]

A. It includes an overview of the proposed amendment to the cleanup plan for the modified Zone 1 area of the USS and Lead Refinery Superfund Site, which was originally signed on Nov. 30 2012 as a record of decision to address soil contaminated with lead and arsenic in the residential and commercial area north of the former USS Lead facility. The amendment calls for EPA to dig up and remove contaminated soil and take it to an off-site facility.
B. EPA anticipated that the houses and apartment buildings, along with the sidewalks and parking lots of the West Calumet Housing Complex (WCHS) would act as barriers to resident's exposure to the lead and arsenic contamination. However, demolition of the WCHC removed these barriers and the risk to human health and the environment that was originally calculated in the 2012 ROD has not changed.
C. The fact sheet includes Zone 1 cleanup status, Zone 1 future use, cleanup alternatives considered, and an evaluation of alternatives.
D. The fact sheet stated that EPA would hold a public meeting and seek comments from the public that could lead to a modified cleanup plan or a new one. The fact sheet encouraged public review and comment on the proposed cleanup plan and included that the selected plan would be announced in a local newspaper and a copy would be placed in the information repositories and posted on the EPA's website.

E. The bottom of the factsheet includes information on receiving the document in Spanish. Contact and public meeting information included.

Source 17

EPA has divided the Site into two operable units: Operable Unit 1 (OU1) and Operable Unit 2 (OU2). OU1 consists generally of a residential neighborhood in East Chicago, Indiana, commonly known as the Calumet neighborhood. OU2 consists of a 79-acre parcel of land located at 5300 Kennedy Avenue, as well as the groundwater associated with both OU1 and OU2. The definitions of OU1 and OU2 are set forth in Section III (Definitions) of the RI/FS ASAOC. Where necessary to make a distinction, the 79-acre parcel of land that forms a part of OU2 will be referred to as the "Former USS Lead Facility" and the groundwater that forms a part of OU2 will be referred to as the "Groundwater." (Source-17; pdf page-49 of 108; Paragraph-3)

As to the scope of the Groundwater investigation, it shall include the groundwater that is: (i) under OU1 and the Former USS Lead Facility; and (ii) nearby the Former USS Lead Facility where EPA has reason to believe that the off-Site groundwater was potentially impacted by the operations of the Former USS Lead Facility. (Source-17; pdf page-49 of 108; Paragraph-5; 3rd Sentence)

USS Lead Pamphlets, Flyers, Postcards

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	8/10/2020	
Reviewed by:	***PJM*** **12/10/20**	[ ]: I reviewed this WP and found it satisfactory. (No comments were provided.) [ ]: I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. [ ]: All comments have been resolved.
Edited by:		

Purpose: To summarize pamphlets, flyers, and postcards distributed by EPA and/or partnering agencies to the community living at or near the USS Lead Superfund Site in East Chicago, Indiana.

Project Guide Step # : 41

Source(s):

#	Description/Title	Source Document
1	**Source 1**-SF Risk Assessment Pamphlet	**Link: Source 1-1999 Superfund Risk Assessment Pamphlet.pdf**
2	**Source 2**-SF Today Property Values	**Link: Source 2-2000 Superfund Today Property Values.pdf**
3	**Source 3**-Open House Flyer 2016	**Link: Source 3-August 30, 2016 Open House Flyer.pdf**
4	**Source 4**-Announcment for Community Interviews	**Link: Source 4-Community Interviews Public Announcement 2010.pdf**
5	**Source 5**-Availability Session (Bilingual)	**Link: Source 5-Availability Session 9.15.18 Spanish and English.pdf**
6	**Source 6**-ATSDR Info Packet	**Link: Source 6-ATSDR information packet.pdf**
7	**Source 7**-EPA Calumet Days Handouts	**Link: Source 7-EPA Copy of Calumet Days Handouts.pdf**
8	**Source 8**-Walgreens Distribution Packet	**Link: Source 8-Copy of Walgreens Distribution Information.pdf**
9	**Source 9**-Door to Door Outreach on Groundwater (Bilingual)	**Link: Source 9-GW USS Lead Door-to-Door Outreach Flyer_Oct 2017_Eng & Span.pdf**
10	**Source 10**-EPA Postcard 2008	**Link: Source 10-June 2009 EPA Postcard.pdf**
11	**Source 11**-ATSDR Pamphlet on Lead	**Link: Source 11-Lead in Yards ATSDR Pamphlet.pdf**
12	**Source 12**-Public Meeting 2007	**Link: Source 12-Public Meeting 2007.pdf**
13	**Source 13**-Lead Testing Flyer 2018	**Link: Source 13-SuperHeroKids_LeadTesting_Flyer 2018.pdf**

14	**Source 14**-Postcard on Soil (Bilingual)	**Link: Source 14-USS Lead Dirt Dirty Postcard_Sept 2015_Eng & Span (1).pdf**
15	**Source 15**-Drinking water Safety Flyer (Bilingual)-2016	**Link: Source 15-USS Lead Drinking Water Safety Flyer_Aug 2016_Eng & Span (1).pdf**
16	**Source 16**-Temporary Relocation Pamphlet 2016	**Link: Source 16-USS Lead Residents Guide to Temporary Relocation Pamphlet_Sep 2016_Eng.pdf**
17	**Source 17**-Postcard 2016	**Link: Source 17-USS-Lead-Postcard-7-11-2016.pdf**

Scope: The details section gives an overview of the pamphlets, flyers, and postcards that were distributed by EPA and/or partnering agencies, as it relates to risk communication/communication of health information to the East Chicago community living near the USS Lead Superfund site.

Conclusion(s):

1.) Each pamphlet, handout, and/or postcard provides information in the context of the site activity. Majority of the sources do state human health risks on the document [Summary of all Sources reviewed in this WP].
2.) Majority of the outreach materials in this set are focused on the contaminant lead and not arsenic, although a couple of the resources do cover arsenic [Summary of all Sources Reviewed in this WP].
3.) Some examples of translated material were provided in this set of outreach materials [See Source 5 Details D and Source 9 Details D].
4.) EPA partnered with other federal, state and local government/health agencies on some of the outreach materials [See Source 7 Details C, Source 8 Details E, Source 13 Details D].

Details:

Source 1-SF Risk Assessment Pamphlet (December 1999)

A.) Provides an overview of a risk assessment, and states the goal of protecting everyone who could come into contact with chemicals at the site (especially children, women of child bearing age, elderly, and other at greatest risk) (Source 1, page 2, summary of paragraph 1).
B.) In the first step of the process (data collection/evaluation), the pamphlet states that EPA collects samples of soil, water, air, fish, garden vegetables, and other things that might contain chemicals from the site and from here determine what chemicals are present and how much (Source 1, page 2, summary of paragraph 2).

C.) The pamphlet goes on to describe the exposure assessment piece and how people have to come into contact with the chemical in order to be at risk, by eating, drinking, playing, etc. in it (Source 1, page 2, summary of paragraph 3).

D.) The next step in the process is the toxicity assessment which is described in the pamphlet as what dose harmful health effects will occur (further explained as: higher the dose the more likely a chemical will cause harm) (Source 1, page 2, summary of paragraph 4).

E.) Last step, the risk characterization, is a summary and describes what the health risk are and how sure EPA is about the results (there is always some level of uncertainty and this is built in and this is to prevent underestimation of risks) (Source 1, page 1, summary of paragraph 1).

Source 2- Superfund Today Property Values (2000)

A.) The factsheet discusses four areas: property owner rights, property values, buying and selling property, and liability (Source 2, page 1, paragraph 4, 2nd sentence).

B.) Property owner rights:

a. EPA is responsible for keeping the community informed about site investigation and cleanup activities on or around the site. Sampling programs are communicated via a newspaper ad, factsheet sheet, or in person. Information repositories allows community members to review sampling results/other information (Source 2, page 2, paragraph 2, sentences 1-3).

b. Disclosure laws-require owners to give information on known or possible pollution problems on or new their property (many but not all states have these laws) (Source 2, page 2, paragraph 2, 5th sentence).

c. EPA will send letters with the sample results only to those whose property was sampled (Source 2, page 2, paragraph 4, 3rd sentence).

C.) Liability:

a. By working with EPA (At a Superfund Site) residential property owners/prospective purchasers can ensure they won't be held responsible for pollution that was present on a property prior to the time of purchase (Source 2, page 3, paragraph 4, 3rd sentence).

D.) Buying and Selling Property:

a. EPA makes a variety of information available to potential buyers, including background information on the Superfund program, activities and responsibilities, and opportunities for public participation. Site specific information can be found at the site repositories/Regional EPA office (Source 2, page 4, summary of paragraph 7).

b. EPA can move residents as part of a cleanup action to protect human health and the environment. In the past EPA has relocated residents because of an immediate risk that could not be minimized without moving people (Source 2, page 5, paragraph 2, sentences 1-2).

E.) Property Values:

a. EPA suggests that property owners consult professionals in their community (real estate agents, banks, etc.) to give accurate answers on property values in the area (Source 2, page 5, paragraph 5, sentences 1-2).

Source 3-Open House Flyer August 30, 2016

A.) EPA, HUD and other federal/state/local agencies are available for one on one settings to discuss: lead in soil, dust sampling, EPA's cleaning at the WCHC, soil sampling outside of the home, housing assistance, health/nutrition (Source 3, summary of paragraph and bulleted list).

Source 4-Announcment for Community Interviews (2010)

A.) EPA put an ad in the Northwest Indiana Times, announcing that they will be in the East Chicago neighborhood within a set number of days and would like to schedule interviews with residents with the focus being lead contamination in yards (Source 4, pg. 1, summary of paragraph 1).

Source 5- EPA Availability Session (Bilingual)-2018

A.) The EPA is holding this meeting in regards to the issuance of the final decision/response to comments for the Former DuPont East Chicago Facility (Source 5, pg.1, title of flyer).
B.) They provide the definition for "groundwater" and that the work will be done under RCRA (Source 5, pg.1, paragraph 1, sentences 3-4).
C.) Information can be viewed at the East Chicago Library and on the EPA webpage (Source 5, pg.1, summary of paragraph 2).
D.) Auditor's note, translated version of the above information is located at the bottom of the first page.

Source 6- ATSDR Info Packet

Part 1-History of Child Blood Lead Levels-2018

A.) People living in East Chicago, Indiana neighborhoods that have been impacted by former industrial facilities within the USS Lead Superfund site have been concerned about their exposure to the lead contamination (Source 6, pg.1, summary of paragraph 1).
B.) In response to these concerns, health agencies have reviewed historical blood lead levels from 2005-2015, among children living within the site, as compared to that across the state of Indiana (Source 6, pg.1, summary of paragraph 2).

Part 2-USS Lead Dust Sampling FAQ's-July 2017

A.) EPA explains that the dust sampling is used to determine if contaminated soil from yards has been tracked into homes at levels that may be a health concern (Source 6, pg.2, paragraph 1).

Part 3-FAQs about Drinking Water Pilot Study-January 2017

A.) EPA describes why they did a pilot study in East Chicago. Street/construction work can sometimes disturb the service lines, and there is a small change that small particles of lead can break off and get into drinking water (Source 6, pg. 3, paragraph 2, sentences 2-3).

B.) EPA's final data shows that prior to excavation and after excavation, lead levels in tap water exceeded the action level of 15 parts per billion. There is no safe level of lead exposure. EPA notified IDEM and city of East Chicago, who have been working together to work on a corrosion control treatment (Source 6, pg. 3, summary of paragraph 4).
C.) EPA mentions that both EPA and CDC agree that there is no known safe blood lead level in children and that children can get their blood tested at the local health department (Source 6, pg. 4, summary paragraph 1).
D.) The handout mentions that skin does not absorb water however drinking it is not safe (Source 6, pg. 4, summary paragraph 2).
E.) The handout also mentions that it is safe to wash dishes and do laundry with unfiltered water and provides some guidance on that (Source 6, pg. 4, summary paragraph 3).
F.) States on the handout that it is not possible for contaminated soil to get into the tap water, and the elevated lead in the tap water is most likely due to lead in the service lines and or plumbing (Source 6, pg. 4, summary paragraph 8).

Part 4-EPA To Begin Cleaning Up Lead-Contaminated Yards Flyer (Bilingual)-2016

A.) Informing the recipient that EPA will soon be cleaning up soil in parts of the neighborhood (Source 7, page 5, summary of paragraph 1).
B.) In Zone 3, EPA is notifying property owners about sampling results and if the property meets criteria for cleanup EPA will contact the owner to discuss next steps (Source 7, page 5, summary of paragraph 2).
C.) EPA is prioritizing properties for cleanup based on lead and arsenic levels that were found in samples. EPA meets with each property owner prior to cleanup. On the factsheet, EPA provides the general process for cleanup (Source 7, page 5, summary of paragraph 5).
D.) Preliminary results for Zone 2 show that lead and arsenic levels at some properties require further action and that when results are finalized EPA will begin cleanup efforts (Source 7, page 5, summary of paragraph 6).
E.) Flyer mentions that EPA will notify residents as soon as final, validated sampling results are available and then they will provide the next steps. EPA will post the data on their website (Source 7, page 5, summary of paragraph 8).
F.) The translated version of the factsheet is located on page 6.

Source 7- EPA Calumet Days Handouts

A.) Pamphlet labeled "protect your child from lead poisoning" (Source 7, page 1).
B.) Pamphlet labeled "lead poisoning at home-learn how to prevent it" (Source 7, page 2).
C.) Pamphlet labeled "protect your family from lead in your home"-EPA, US Consumer Product Safety Commission, US Department of HUD, June 2017 (Source 7, page 3).
D.) Brochure labeled "Make Your House a Healthy Home and More Environmentally Friendly Too!" Offers ways to make your home a healthy place and provides information on mold, radon, carbon monoxide, asthma and allergies, second-hand smoke, volatile organic compounds, drinking water contaminants, lead, mercury, and pesticides-EPA (Source 7, page 4, summary of paragraph 1).

E.) Pamphlet labeled "Give Your Child the Chance of a Lifetime"-EPA and LEAD Awareness Program (Source 7, page 5).
F.) The Lead-Safe Certified Guide to Renovate Right. Important lead hazard information for families, child care providers and schools-EPA (Source 7, page 6).
G.) Flyer with an artist drawing of EPA's Charlie Chipmunk promoting being lead-free (Source 7, page 7).
H.) EPA flyer labeled "Protect children where they live, learn, and play" (Source 7, page 8).
I.) Illinois Department of Public Health, Environmental Health Fact Sheet Labeled "How Can I Reduce My Exposure to Contaminants in Soil?"
    a. Factsheet describes ways that people can be exposed to contaminants in soil and the various was in which that individuals can reduce and prevent exposure to contaminants in soil (Source 7, Summary of page 9).

Source 8- Walgreens Distribution Packet

*Auditors Note-Similar packet information as that distributed at Calumet Days (See Source 7 Above)
A.) Pamphlet labeled "protect your child from lead poisoning" (Source 8, page 1).
B.) Pamphlet labeled "Fight Lead Poisoning with a Healthy Diet-Lead Poisoning Prevention Tips for Families" (Source 8, page 2).
C.) Pamphlet labeled "protect your family from lead in your home"-EPA, US Consumer Product Safety Commission, US Department of HUD, June 2017 (Source 8, page 3).
D.) Brochure labeled "Make Your House a Healthy Home and More Environmentally Friendly Too!" Offers ways to make your home a healthy place and provides information on mold, radon, carbon monoxide, asthma and allergies, second-hand smoke, volatile organic compounds, drinking water contaminants, lead, mercury, and pesticides-EPA (Source 8, page 4, summary of paragraph 1).
E.) Pamphlet labeled "Give Your Child the Chance of a Lifetime"-EPA and LEAD Awareness Program (Source 8, page 5).
F.) The Lead-Safe Certified Guide to Renovate Right. Important lead hazard information for families, child care providers and schools-EPA (Source 8, page 6).
G.) Illinois Department of Public Health, Environmental Health Fact Sheet Labeled "How Can I Reduce My Exposure to Contaminants in Soil?"
a) Factsheet describes ways that people can be exposed to contaminants in soil and the various was in which that individuals can reduce and prevent exposure to contaminants in soil (Source 8, Summary of page 7).

Source 9- Door to Door Outreach on Groundwater (Bilingual)

A.) EPA handout informing residents living in the neighborhood that EPA will be conducting a door-to-door evaluation of groundwater use and basement that have had past flooding (Source 9, pg.1, summary of paragraph 1).
B.) This is part of the remedial investigation of Operable Unit 2 and will locate wells, determine current use of groundwater, and identify homes with basements that flood (Source 9, pg.1, paragraph 2, 1st sentence; paragraph 3, 1st sentence).
C.) Previous EPA evaluations have determined that groundwater is not used for drinking purposes. In addition, sampling of local basement sump pumps found skin contact does not pose a risk to residents. Also soil sampling, at points where the sumps drain onto the

lawns did not come back with elevated concentrations of metals (Source 9, pg.1, paragraph 1, sentences 2-5).

D.) Auditors note, translated copy was also provided.

Source 10- EPA Postcard "EPA Begins Cleanup at USS Lead Superfund Site" 2008

A.) EPA Region 5 published a postcard informing residents that EPA is working in the neighborhood to remove lead contaminated soil from some yards (Source 10, pg. 1, paragraph 1, 1st sentence).

B.) The postcard gives a brief background of the USS Lead site and states that some yards have higher than acceptable lead levels (Source 10, pg. 1, paragraph 1, sentences 1-3).

C.) EPA's contractor will dig up yards where lead the level is too high and clean fill dirt will be brought in (Source 10, pg. 1, paragraph 1, 4th sentence).

D.) EPA staff contact information is provided (Source 10, pg. 1, bottom of page).

Source 11-ATSDR Pamphlet

Part 1 "Protect Your Family from Lead in Your Yard" (Spring 2010)

A.) Handout describes how lead exposure occurs, steps on how to avoid lead from exposure to contaminated soil (Source 10, pg.1, summary of pg.1 bulleted lists).

B.) It also states the importance of having children get blood lead testing (Source 10, pg.1, bottom of the page).

Part 2 "Gardening in Lead-Contaminated Soil" (Spring 2010)

A.) Provides steps to lower the amount of lead that gets into your body when people eat vegetables grown in their own garden in the form of a DO's (in green) and Don'ts (in red) list (Source 11, summary of page 2).

Source 12- Public Meeting on the USS Lead Superfund Site 2007

A.) The flyer states that EPA will be available to discuss lead contamination in East Chicago yards. Further it lists two site contacts (Source 12, summary of page 1).

Source 13- Blood Lead Testing Flyer 2018

A.) This flyers aim to get parents to bring their children out to get blood lead testing done (Source 13, summary of pg.1).

B.) Key phrases used such as "Help Your Super Hero Kids" and "Protect them from Lead" are shown at the top of the flyer to catch the reader's attention (Source 13, pg.1, top of page).

C.) Helpful information, such as where the testing is being conducted, how the procedure is done, and tips to reduce lead exposure are provided on the flyer (Source 13, summary of pg.1).

D.) Multiple agencies are listed on the flyer, to include, EPA, IDEM, East Chicago Health Department, ATSDR, HealthLinc, FQHC, NCQA (Source 13, pg.1, bottom of page).

Source 14- Postcard "Is Your Dirt Dirty?-We Can Help You Find Out" (Bilingual)

A.) The purpose of this postcard is to determine if soil in resident's yards is contaminated with lead (Source 14, pg. 1, paragraph 1, 1st sentence).

B.) The postcard states that high levels of lead can cause health problems and therefore it is important to find out if the soil contains lead (Source 14, pg. 1, paragraph 1, 2nd sentence).
C.) Auditor's note page 2 contains the translated version of the postcard.

Source 15- Drinking Water Safety Flyer (Bilingual)-2016

A.) EPA flyer providing information for East Chicago residents, after some residents had expressed concern about lead in their drinking water (Source 15, pg.1, paragraph 1, 1st sentence).
B.) EPA is recommending the same steps for residents in cities with lead pipes to prevent potential exposure to lead in drinking water (Source 15, pg.1, paragraph 1, 2nd sentence).
C.) EPA states that lead from the soil does not enter the drinking water system (Source 15, pg.1, paragraph 2, 2nd sentence).
D.) EPA states that East Chicago water is treated to keep lead from leaded pipes getting into the water, and the city meets federal water quality standards for lead (Source 15, pg.1, paragraph 3, sentences 2-3).
E.) EPA lists several steps that residents can take in reducing exposure to lead in drinking water (Source 15, pg.1, bulleted list).
F.) EPA's hotline number and website is listed as a source of information for concerned residents (Source 15, pg.1, bottom of page).
G.) Auditor's note, page 2 includes the translated version of the flyer.

Source 16- Residents' Guide to Temporary Relocation-Pamphlet 2016

A.) Auditor's Note, the pamphlet's page numbers are out of order, so I will reference the pdf page number and go in order that the pamphlet would be read in.
B.) Purpose of the Guide: US EPA is offering to clean all homes in West Calumet Housing Complex (WCHC) to prevent contamination. It is voluntary to allow EPA to clean your home, however if you decide to you will have to temporarily relocate. EPA relocation staff will meet with residents to discuss this. The Guide provides answers some questions regarding assistance during temporary relocation, the relocation process, and the work at WCHC (Source 16, summary of PDF page 7).
C.) EPA set up a command post at the Old Carrie Gosch Elementary School. EPA is directing cleanup/relocation from the school. The public can contact EPA staff (Source 16, pg.8 left-hand side of page, summary of paragraphs 1-3).
D.) The cleaning process is explained and what items the resident is responsible for cleaning upon return (Source 16, summary pg.17 right-hand side of page).
E.) Information is provided on lead and arsenic. What they are, how people can be exposed to it, the health effects, and tests you can have done to see if you have been exposed (Source 16, summary of pg. 5 left-hand side of page, and pg.6 right-hand side of page).
F.) A background of the sites history was provided (Source 16, pg.4, summary of paragraphs 1-2).
G.) Provides an overview of CERCLA and explains that the cleanup activities are being performed by US EPA and that other agencies like IDEM, ATSDR, East Chicago Housing Authority, Indiana State Department of Health, the Indiana Department of Housing, and the US Department of Housing and Urban Development (Source 16, page 3 left-hand side, summary of paragraphs 1-2).

H.) This guide is focused on the West Calumet Housing Complex, as other portions of the site are being evaluated for cleanup. Yards within the site are contaminated with lead and arsenic (Source 16, pg.4 right-hand side, summary of paragraph 3).

I.) EPA is offering to cleanup all homes in WCHC to prevent the exposure to lead and arsenic dust present at hazardous levels. Residents are being asked to temporarily relocate while cleaning is being conducted (Source 16, pg.4 right-hand side, summary of last paragraph).

Source 17- Zone 1 Postcard-Bilingual (2016-date was on file when provided to OIG)

A.) The postcard informs the reader that EPA is taking action to reduce potential public health risks from exposure to lead-contaminated soil at the WCHC (Source 17, page 1, paragraph 1, 1st sentence).

B.) EPA will begin by covering patches of bare dirt in the complex with mulch (this is temporary and provides a protective barrier until EPA can dig up/remove the lead contaminated soil) (Source 17, page 1, paragraph 1, sentences 2-3).

C.) EPA explains that they will be installing shredded rubber mulch around a playground area in Goodman Park and cover bare dirt in the housing complex yards with mulch. Later in the summer (auditor's note: summer 2016), EPA will remove contaminated soils with the highest lead levels identified as this is a part of the larger effort for the site (Source 17, page 1, summary of 2nd paragraph).

D.) ATSDR is advising that parents prevent children from: playing in dirt, wash children's toys regularly and wash children's hands after they play outside. All residents should remove their shoes before walking into their homes. Residents in WCHC should not dig or garden in their yards (Source 17, page 1, summary of paragraph 3).

Agency Documentation of USS Lead/East Chicago

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	9/1/2020	
Reviewed by: Roopa Mulchandani	10/14/20	**[x]:** I reviewed this WP and found it satisfactory. (No comments were provided.) **[ ]:** I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. **[ ]:** All comments have been resolved.
Edited by:		

Purpose: To summarize documentation the OIG reviewed for the USS Lead Superfund site in East Chicago, Indiana with an emphasis on site history, risk information, and any risk communication activities occuring at the site.

Project Guide Step # : 41

Source(s):

#	Description/Title	Source Document
1	**Source 1**-USS Lead 2008 Memo	Link: Source 1-USS Lead Action Memo 1 January 2008.pdf
2	**Source 2**-USS Lead Memo 2016	Link: Source 2-USS Lead Action Memo Amendment Sep 20 2016.pdf
3	**Source 3**-1992 NPL Summary	Link: Source 3-1992-EPA NATIONAL PRIORITIES LIST (NPL) NARRATIVE SUMMARY.pdf
4	**Source 4**-2008 NPL Summary	Link: Source 4-2008 EPA NATIONAL PRIORITIES LIST (NPL) NARRATIVE SUMMARY.pdf
5	**Source 5**-IDEM Investigation Memo	Link: Source 5-1997-IDEM Memo Lead Contamination Investigation-Carrie Gosch.pdf
6	**Source 6**-2004 RCRA Subtitle C	Link: Source 6-2004-RCRA SUBTITLE C CORRECTIVE ACTION FACILITY TO CERCLA.pdf
7	**Source 7**-2006 Statement of Work	Link: Source 7-2006 Statement of Work at USS Lead.pdf

Scope: The details section gives an overview of the key points from multiple documents published by EPA or State agencies, as it relates to the USS Lead Superfund site.

Conclusion(s):

1.) Indiana Department of Environmental Management (IDEM) and US EPA were both involved in sampling at the site (See Details Section 2C-E).
2.) The 2016 validated sampling results revealed that lead concentrations in soil up to 24 inches in depth ranged from non-detect (ND) to **91,100mg/kg**. **Arsenic** concentrations ranged from ND to **3,530 mg/kg** (See Details Section 2I).
3.) Observations by the ATSDR across almost 20 years demonstrate a consistent pattern of elevated blood lead levels in young children living in West Calumet Housing Complex (See Details Section 2K).
4.) EPA works with multiple federal agencies and local departments to disseminate information to the public (See Details Section 2N).
5.) Several observations were made by EPA on the potential for dispersion of contaminated soil throughout the site (See Details Section 2P-Q).
6.) The facility was proposed for the NPL in 1987 site (See Details Section 6C.a).
7.) In 1996, Superfund conducted a health exposure investigation in the community. Auditor's note, the site was still under RCRA at the time. (See Details Section 6C.e).

Details:

Section 1: Source 1-USS Lead 2008 Memo-Dated January 22, 2008

A. Purpose of the memo was to request funding to perform a time critical removal action to mitigate threats to public health, welfare, and the environment in residential areas adjacent to the USS Lead site (PDF page 1, paragraph 1).
B. The presence of **lead contaminated soil with concentrations up to 3,000 ppm** (above regulatory removal action level of 1,200 ppm in residential areas), makes this a time critical removal action (PDF page 1, paragraph 2).
C. Some properties in the residential area have lead levels of lead elevated above US EPA cleanup levels and the likely source for the lead contamination is the USS Lead facility (PDF page 2, paragraph 1).
D. The East Chicago neighborhood, around USS Lead, has been an area of intense industrial activity dating back to the 1900's, where smelting and other metal related processes dominated the activities of the area. These companies generated lead product or waste in particulate form, and chronic airborne pollution from USS Lead and other facilities is the probably source of lead contamination in the area (PDF page 2, paragraph 3).
E. IDEM referred the USS Lead facility to US EPA in 1985 (PDF page 2, paragraph 4). Since 1985 EPA RCRA Corrective Action oversaw remediation and management of lead contaminated soils within the facility boundaries (PDF page 2, paragraph 5). In 2003, US EPA sampled soils in the residential area which showed some yards had high levels of

lead contaminated with the highest being in the southern region of the residential area (PDF page 3, paragraph 1).

F. **In Region 5, the EJ Criteria for Indiana is**: low income percentage is 58% or greater and/or the minority percentage is 28% or greater; area within 1 mile of the Site must have a population that is twice the state low-income percentage and/or twice the state minority percentage. At USS Lead the low income percentage is 58% and the minority percentage is 92% therefore the Site **does meet** the Region's criteria (PDF page 3, paragraph 2).
G. Surface soil samples collected at 11 properties showed levels of lead exceeding 1,200 ppm with the highest sample found having a lead level of 3,000 ppm (PDF page 3, paragraph 4). One of the next steps was to obtain site access to conduct a removal action from residences which exceeded the 1,200 ppm, determined in EPA's Site Assessment of June 2006 (PDF page 4, List #2).
H. In 2006, EPA obtained/analyzed soil samples collected at 13 residences (these were selected after reviewing the results from the XRF data in 2003, which was approximately 80 points scattered throughout the residential area of the USS Lead site). The 2003 data showed that the highest concentrations of lead generally diminished as the distance from the USS Lead facility increased. The 13 residences sampled, were areas that EPA "suspected" had concentrations of lead equal to or greater than 1200 ppm (PDF page 5, paragraph 2).
I. EPA has found **11 properties** that meet action level for a removal action. *This number may rise as further information may indicate additional homes meet the action level* (PDF page 5, paragraph 3).
J. EPA conducted this further sampling in order to better understand the lead contamination in neighborhood soil in East Chicago (PDF page 5, paragraph 5).

Section 2: Source 2-USS Lead Memo 2016: Dated September 20, 2016

A.) Action memorandum regarding an exemption from $2 million and 12 month statutory limits, change in scope of response for time-critical removal action at the USS Lead site from Douglas Ballotti (Acting Director, Superfund Division) sent to Mathy Stanislaus (Assistant Administrator of OLEM) (Source-2; Page-1; Heading).
B.) There was soil data collected during the remedial design for implementing EPA's Remedial Action selected in a Record of Decision in November 2012, and indoor dust sampling as part of the emergency removal, and it was determined that the inside of the residences in the West Calumet Housing Complex (WCHC) needed to be cleaned and residents temporarily located (Source-2; Page-1; Paragraph-1; 5th sentence).
C.) **Site Description:** Indiana Department of Environmental Management (IDEM) sampled some residential properties north of USS Lead facility in 1985 and found elevated lead levels in these residential yards. In September 1985, Indiana Board of Health found USS Lead facility in violation of state law and stated that the lead-contaminated soils within the facility boundaries may pose a risk to human health and the environment. IDEM then referred the USS Lead facility to EPA for cleanup (Source-2; Page-2; Paragraph-4).

D.) From 1993 through 2006, EPA's RCRA Corrective Action program oversaw the remediation and management of lead-contaminated soils within the boundaries of the USS Lead facility (OU2) (Source-2; Page-3; Paragraph-1; 1st sentence).

E.) As part of the RCRA corrective action in 2003 and 2006, EPA conducted soil sampling in OU1 of the USS Lead site (Source-2; Page-3; Paragraph-2; 1st sentence)..

F.) The RCRA Corrective Action program looked at the possible source of lead contamination and determined it was from various industrial sources (Source-2; Page-3; Paragraph-3; 6th sentence).

G.) EPA identified 15 private properties that contained soil with lead concentrations above 1,200 mg/kg in the top 6 inches of soil, and on June 9 2008 EPA initial time-critical removal action at these 15 residential properties (Source-2; Page-3, Paragraph-3, last sentence; Page-4, Paragraph-1, sentences 1-2).

H.) A remedial investigation was conducted between 2009-2010 to collect soil data in Zones 1-3. EPA found an additional 14 areas within OU1 with lead levels exceeding 1,200 mg/kg (Source-2, Page-4, Paragraph-2, sentences 1-2).

I.) EPA sampled soil within Zone 1 between November 2014-April 2015 (Source-2, Page-4, Paragraph-4, 1st sentence). In May 2016, EPA received validated sampling results, revealing lead concentrations in soil up to 24 inches in depth ranged from non-detect (ND) to **91,100mg/kg** for **lead**. **Arsenic** concentrations ranged from ND to **3,530 mg/kg**. 117 properties exceeded removal management level for lead (400 mg/kg) and 61 properties exceeded the RML for arsenic (68mg/kg). All properties exceeding RML for arsenic also exceeded RML for lead. Sample results from surface samples indicate that lead concentrations at 13 properties in WCHC exceeded 5,000mg/kg with concentrations up to 45,000mg/kg (Source-2, Page-4, Paragraph-4, sentences 4-8).

J.) July 2016, EPA began covering bare soils within WCHC with wood mulch to minimize direct contact threat and potential for migration of soil with elevated lead (Source-2, Page-4, Paragraph-5).

K.) Observations by ATSDR across almost 20 years demonstrate a consistent pattern of elevated blood lead levels in young children living in WCHC. Provided that ISDH Lead Inspectors found no lead-based paint in several sampled units, it is likely that exposure to soil-based lead contamination in WCHC is a primary cause of elevated blood lead levels in children (Source-2, Page-5, Summary of Paragraph-2).

L.) The residential area comprising OU1, including WCHC, has been contaminated by operations conducted by Anaconda Lead Products and International Lead Refining Company on property within OU1. Other industrial sources of contamination at WCHC include aerial deposition of windblown contaminants from USS Lead and other local industrial facilities (Source-2, Page-7, Summary of Last Paragraph).

M.)Exposure is described by direct ingestion of soil in yards, soil tracked indoors, or house dust; and inhalation of fugitive dust (Source-2, Page-8, Summary of Paragraph-2).

N.) EPA is working with ATSDR, HUD, the East Chicago Housing Authority, the East Chicago Health Department, the Indiana State Department of Health, and the City of East Chicago elected officials to disseminate information to the public. EPA also coordinates discussions with stakeholders regarding elevated levels of lead and EPA's plans to address the issue (Source-2, Page-10, Summary of Paragraph-2).

O.) States that the conditions in Zone 1 present a threat to public health or welfare and the environment and meet criteria for time-critical removal action. EPA is addressing exposure to lead contaminated soil in yards in indoor dust. EPA explains the health risks associated with lead exposure (Source-2, Page-10, Summary of Paragraphs 3-5).

P.) Observations EPA made were that individual properties were not fenced and children were observed moving throughout the WCHC, which allows for an increase in potential for contact with high levels of lead in soil and tracking of lead soil back into their homes. In addition, EPA makes the observation that grass coverage during the early spring and fall is generally lighter which allows for more potential tracking of contaminated soil into the home (Source-2, Page-11, Paragraph 2, sentences 3-4).

Q.) High winds threaten the dispersal of surface particulate matter contaminating lead, which could result in exposure to children and adults who reside within the Site. In addition, rain or thunderstorms may cause outdoor lead to migrate via surface runoff (Source-2, Page-11, Paragraph 3, Summary of 1st and 3rd sentence).

R.) Mentions the ECHD data that was summarized by ATSDR that had an EBL incidence rate of 19% and stated that that BLL data confirms an immediate risk to public health (Source-2, Page-12, Paragraph 1, Last 3 sentences).

S.) States that residential yards have high accessibility to sensitive populations, to include young children under age 6 and pregnant women. Additionally, young children have been observed playing in contaminated yards (Source-2, Page-12, Summary of Paragraph 2, 3rd and 4th sentences).

T.) EJ Screen Report (Version 2016) of a 0.5 mile ring centered at a specific coordinate was included in the report (Source-2, Summary of Pages 25-27).

U.) The EPA Memo describes the IEUBK model that was used to determine the indoor dust screening level for lead. It was run using 400 ppm for lead in soil and modeled children 0 to 84 months of age. The calculated screening level to protected this population from a current US EPA acceptable blood lead level of 10ug/dL is 316 ppm of lead in dust (Source-2, Page 71, Summary of Paragraph 2-3, Page-72, Top of page).

V.) EPA mentions in a January 22, 2008 memo (Source-2, Page 78, Date Stamp): Removal cleanup levels for lead are 400ppm for the residential properties, as noted in guidance from ATSDR (Source-2, Page 81, Under "Proposed Actions and Estimated Cost" Item Number 2, 3rd sentence).

W.) In EPA's Action Memo dated September 12, 2011 (Source-2, Page 127, Date Stamp): The area surrounding the USS Lead Site was screened for Environmental Justice (EJ) concerns using the Region 5's EJ Assist Tool-This applies to the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT). According to EPA Region 5, Census tracts with a score of 1, 2, or 3 are considered a high priority and potential EJ area of concern, and USS Lead is in census tract with a score of 1. Region 5 therefore considers this site a high-priority potential EJ area of concern (Source-2, Page 129, Summary of Paragraph 2).

X.) The presence of lead contaminated soil in residential yards at concentrations up to 5,993 ppm, which is above the regulatory removal action level of 1,200 ppm, making this a time-critical removal action (Source-2, Page 130, Summary of Paragraph 2). This was discovered when EPA collected surface samples at 14 properties during the RI and data

showed levels of lead exceeding the removal action level previously stated (Source-2, Page 131, Summary of Paragraph 4, Sentences 1-3).

Y.) Mentions that lead is considered by USEPA to being a class B2 or probable human carcinogen (Source-2, Page 131, Last Paragraph, 4th sentence).

Section 3-Source 3 1992 NPL Summary: Dated February 1992

A.) Summary of the history of U.S. Smelter and Lead Refinery, Inc. (USS Lead) in East Chicago Indiana (Source-3, Summary of Document).

B.) In 1986, IDEM detected elevated levels of lead in the slag (Source-3, Paragraph 3, last sentence).

C.) Substantial amounts of dust remain at the site and dust has been spread by wind throughout the building, which has become dilapidated (Source-3, Paragraph 4, sentences 4-5).

D.) Permit levels for lead, cadmium, copper, arsenic, and zinc were frequently exceeded, according to IDEM. In the 1980s, several State and Federal enforcement actions were taken against USS Lead for permit violations. An estimated 4.1 million people obtain drinking water from intakes into Lake Michigan within 15 miles downstream from where hazardous substances from the site enter surface water. In addition, nearby bodies of water are used for fishing and recreation (Source-3, Summary of Paragraph 5).

E.) In September 1985, ISBH determined that USS Lead had violated State law because it was emitting lead particles into the air downwind of the site. It is estimated that 7,500 people work or attend school within 2 miles of the site (Source-3, Summary of Paragraph 6).

F.) The site is being proposed for the NPL because it meets both the NPL and the RCRA policy: owner demonstrated an inability to finance appropriate remedial action by invoking bankruptcy laws (Source-3, Summary of Last Paragraph).

Section 4-Source 4 2008 NPL Summary: Dated September 2008

A.) Document states that lead has been detected in wetlands on the USS Lead property and that lead has also been found in residential soils in the north of USS Lead (Source-4, Paragraph 3, 3rd and 4th Sentence).

B.) Mentions that lead contamination poses a threat to nearby residents and to the wetland on the USS Lead property (habitat for two state designated endangered species), and the Grand Calumet River Corridor (Source-4, Summary of Paragraph 4).

C.) State of Indiana referred the site to EPA because lead was detected in nearby residential soils and in the wetland and this may pose a risk to human health and the environment. Other federal and state cleanup programs were evaluated but not viable, as USS Lead is bankrupt and state is without resources to investigate/cleanup the lead contamination (Source-4, Paragraph 6, Sentences 1-3).

D.) EPA received a letter of support for placing this site on the NPL from the state (Source-4, Paragraph 6, Last Sentence).

Source 5-IDEM Investigation Memo-August 5, 1997

A.) Department of Environmental management Indianapolis memo on the subject of lead contamination investigation (Source-5, Paragraph 1, Top of Page and Subject Line).
B.) Mentions that surface soil sampling is complete and of that six on-site soil samples collected, lead levels above 400 ppm are in the south west portion of the site (Source-5, Paragraph 1, Sentences 1-2).
C.) There were two samples taken at the WCHC, and neither had lead levels of concern (Source-5, Paragraph 1, 3rd sentence).
D.) An environmental supervisor will be advised to address the area on the southwest portion of the site and no further assessment is planned for WCHC (Source-5, Summary of Paragraph 2).
E.) A hand drawn map is provided of the sampling locations (Source-5, Page 2).

Source 6-2004 RCRA Subtitle C-June 24, 2004

A.) US EPA Region 5 referral of RCRA Subtitle C Corrective Action Facility to CERCLA [from Waste, Pesticides and Toxics Division to Brownfield/Early Action Section] (Source 6, Top of the Page 1, Date, and Correspondence information).
B.) RCRA has determined that is would be advantageous for the Superfund program to address the cleanup responsibilities for off-site contamination from this facility. The off-site soil lead contamination is commingling with lead from various pre-CERCLIS screening lead sites in nearby residential areas. RCRA will continue to address on-site contamination from this facility. Superfund will track its progress for off-site under GPRA measures and the facility will be tracked on-site and off-site on the RCRA program's GPRA Baseline or measures (Source 6, Page 1, summary of paragraph 1).
C.) Summary of the current status of the site (page 3):
    a. Facility has the highest ranking in Region 5 under the National Corrective Action Prioritization System and proposed for NPL in 1987 (Source 6, Page 3, Paragraph 1, 1st sentence).
    b. Lead from former emissions from this facility impacting soils from nearby residential areas has comingled with lead from various pre-CERCLIS screening lead sites (Source 6, Page 3, Paragraph 1, 4th sentence).
    c. The Enforcement and Compliance Assurance Branch believes the off-site contamination from this site warrants Superfund action (Source 6, Page 3, Paragraph 1, last sentence).
    d. November 18, 1993 USS Lead entered into a RCRA 3008 (h) Administrative Order on Consent requiring interim measures and a facility investigation (Source 6, Page 3, Paragraph 2, 1st sentence).
    e. 1996 Superfund conducted a health exposure investigation in the community and ten of the children tested had a blood lead level above the action level of 10 micrograms per deciliter. However, USS Lead had been unwilling to investigate nearby residential areas, prompting RCRA staff to conduct preliminary soil screening in 2003. Results indicated soil lead concentrations exceeding 400ppm to above 1,000ppm. When RCRA tasked TechLaw Inc. to evaluate lead sourcing,

it indicated a complex distribution of lead in soil from various multiple industrial sources (Source 6, Page 3, Paragraph 1, Sentences 4-6).

D.) Response to referral of the off-site contamination to the Superfund Remedial Program. The program wrote stating the accepted the referral request (Source 6, summary of page 4).

Source 7-Statement of work for USS Lead

A.) Chronic airborne pollution from USS Lead and other facilities in the area is the probable source of the lead contamination in the area (Source 7, Page 6, Paragraph 3, Last Sentence).

B.) IDEM sampled some residential properties north of USS Lead in 1985 and found elevated lead levels attributed to USS Lead and the Indiana State Board of Health found USS Lead in violation of state law and made the statement that the lead contaminated soils may pose a risk to human health and the environment. IDEM referred USS Lead facility to EPA for cleanup (Source 6, Page 1, Summary of Paragraph 4).

C.) Since 1985, EPA RCRA Corrective Action has overseen remediation/management of lead-contaminated soils within the boundaries of the USS Lead facility (Source 6, Page 2, Paragraph 1, 1st Sentence).

D.) In 2003 EPA sampled soils north of USS Lead (residential area), part of RCRA Corrective Action investigation, and most of the yards with highest lead sampling results were in the southern region of the residential area (Source 6, Page 2, Paragraph 1, Sentences 3-5).

E.) **Purpose Section:** EPA would like to conduct further sampling in East Chicago to better understand the lead contamination in neighborhood soils. EPA plans to further characterize residential yards previously sampled and wants to collect data using real-time field based screening approaches (Source 6, Page 2, Summary of Paragraph 2).

a. The sampling outline is described as sampling the residential yards that had elevated lead levels in 2003, using the Superfund Lead-Contaminated Residential Sites Handbook (Source 6, Page 2, Paragraph 3, 1st Sentence).

ATSDR Health Reports on East Chicago Community

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	10/15/19	
Reviewed by: Roopa Mulchandani	11/26/19 2/4/20	**[X]:** I reviewed this WP and found it satisfactory. (No comments were provided.) **[ ]:** I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. **[ ]:** All comments have been resolved.
Edited by: Morgan Collier	1/2/2020	Found a 2010 PHA to include in this work paper, see source 4.
	5/22/2020	Found a copy of 1994 Preliminary PHA to include, see sections 8-10. Added details and conclusions for sources 5-10.

Purpose: To summarize health reports published by Agency for Toxic Substances and Disease Registry (ATSDR) on the East Chicago, Indiana community living near the USS Lead Superfund Site.

Project Guide Step # : 44a

Source(s):

#	Description/Title	Source Document
1	ATSDR's 2018 Report	Link: **Source 1-ATSDR Health Consultation August 16, 2018.pdf**
2	ATSDR's 2011 PHA	Link: **Source 2-ATSDR PHA January 21, 2011.pdf**
3	ATSDR's 1998 EI	Link: **Source 3-US Smelter and Lead Refinery Exposure Investigation 1998.pdf**
4	ATSDR's 2010 PHA	Link: **Source 4-ATSDR PHA January 29, 2010.pdf**
5	Email on Blood Lead Statements 2016	Link: **Source 5-ATSDR email on blood lead testing 2016.pdf**
6	Evaluation of Release of Lead from Water Service Lines 2016	Link: **Source 6-ATSDR Eval of lead from water lines and use of water filters 2016.pdf**
7	Blood Lead Level Summary for Action Memo 2016	Link: **Source 7- Email Between ATSDR and EPA on Blood Lead Findings.pdf**
8	ATSDR's 1994 Preliminary PHA and Health Consultation Part 1	Link: **Source 8-1994-ATSDR-PHA-HC-P1.pdf**
9	ATSDR's 1994 Preliminary PHA and Health Consultation Part 2	Link: **Source 9-1994-ATSDR-PHA-HC-P2.pdf**
10	ATSDR's 1994 Preliminary PHA and Health Consultation Part 3	Link: **Source 10-1994-ATSDR-PHA-HC-P3.pdf**

Scope: The details section gives an overview of the key points from the multiple health reports, as it relates to the East Chicago community living near the USS Lead Superfund site.

Conclusion(s):

1.) Indiana State Department of Health (ISDH) and ATSDR conducted a site visit of USS Lead in **1993**, and US EPA and IDEM were also present (See Details Section 8j).
2.) Several agencies at the state and federal level were involved early on at the site in the 1980's. In **June 1985**, the **Indiana State Board of Health (ISBH)** conducted blood lead screening for 53 children aged six months to six years in East Chicago and found two children had moderately increased blood lead levels, between 10 to 20 µg/dL (See Details Section 9L). Then in **1996** and **ATSDR** did an EI of two neighborhoods near the SF site, that study found that 30% of children had blood lead levels >10 µg/dL (See Details Section 1c). In 1985, ISBH conducted air monitoring on-site, and they found high levels of fugitive dust and lead suspended in the air (See Details Section 9e). In **1985,** the

Indiana Air Pollution Control Board sampled for lead in surface soil and found that off-site locations in residential areas contained high levels of lead contamination (See Details Section 9f, 9fi). Between **1985-1989 IDEM** conducted air monitoring for lead in off-site ambient air and found that in 1985 concentrations of airborne lead were relatively high (See Details Section 9h).

3.) In the 1994 and 2010 PHA's, **no community concerns were identified** when ATSDR questioned representatives of USEPA, Lake County Health Department, and the Indiana Department of Environmental Management (See Details Section 4g and 8Q).

4.) In the 1994 report, the ATSDR concluded that contamination from the site was a public health hazard, that there was insufficient sampling data to fully characterize the extent of the contamination, and recommended the need for further characterization of residential soil to determine the risk to human health (See Details Section 2k). Other recommendations made include: having dust control methods in place during remediation, education on health effects of lead exposure, and methods to reduce lead exposure. (See Details Section 8h). **The report also stated that ATSDR has a role as an advisor/source of information to the community** (See Details Section 10Cii).

5.) The 1994 report also states that individuals **have been exposed** to multiple contaminants at USS Lead. However, **data is very limited on health effects of multiple contaminant exposure** (See Details Section 9k).

6.) There was both **on-site and off-site contamination in the soil and ambient air** (See Details 8C-E).

7.) The health agencies also recommended several steps to be taken, several of which didn't occur until years later, ie. Remediation work (See details Section 1c).

8.) In a 2011 PHA, ATSDR used data that was too broadly focused, and stated that there were declining blood lead levels in the neighborhoods surrounding the SF site (See details Section 1d).

9.) Between 2014-2015, EPA soil sampling showed higher soil lead levels, which renewed concerns in the health agencies (See details Section 1e).

10.) One of the conclusions in ATSDR's 2011 report was that: Prior to 2006, lead contamination in yards downwind of the USS Lead site posed a public health hazard in the past for young children eating contaminated soil (See details Section 2e).

11.) In ATSDR's 2010 report, it stated that in the past, elevated levels of lead in soil of properties downwind from the USS Lead site along with lead from other sources increases the **risk in some preschool children** for having increased levels of lead in their blood, and the report further listed some of the health effects (See details Section 4j).

12.) Also in the 2011 report, tests conducted in **1986** by the Indiana Department of Environmental Management (IDEM) detected elevated levels of lead in the slag (See details Section 2g).

13.) Permit levels for lead, cadmium, copper, arsenic, and zinc were frequently exceeded according to IDEM. During the 1980s, there were several state and federal enforcement actions against USS Lead for permit violations. The combination of violations and dumping of slag water into the wetland, contributed to past contamination of surface water in the area (See Details Section 2h).

14.) Hazardous materials were dumped into wetland areas that connect waterways that the public uses for fishing and recreation (See Details Section 4d).

15.) The RCRA Administrative Order with USS Lead was entered into in 1993 (See Details Section 2i).
16.) RCRA referred the residential areas to Superfund in 2004, and then the facility property footprint to Superfund in 2006 (See Details Section 2j).
17.) There were removal actions in the 14 properties north of the site in 2006 (See details Section 2l).
18.) >80% of those 14 yards had concentrations that threatened the health of young children, 6 years of age and younger (See details Section 2m).
19.) In September of 1996, USS Lead conducted a public meeting. **The community posed concerns** on how lead can affect human health and requested additional blood testing for people living in the West Calumet and Calumet communities (See details Section 3c).
20.) ISDH and ATSDR reviewed EPA off-site soil lead concentrations and determined that the West Calumet and Calumet communities were the populations at greatest risk to exposure to elevated lead levels (See details Section 3f).
21.) On July 10 and 25, 1997, six soil samples were taken from both sites (Eagle Pitcher and Anaconda). The results showed soil lead levels ranging from 12-298 ppm at Eagle Pitcher site, and 59-1400 ppm at the Anaconda site. Only a confined area of lead contamination at the Anaconda site contained lead above the action level for lead in residential soil (400 ppm). (See details Section 3g).
22.) Anyone with an elevated blood lead result was called prior to receiving their results in the mail (See details Section 3h).

Details:

1.) Source 1: ATSDR's 2018 Report

a. Report is described as a health consultation, meaning it is a verbal or a written response from ATSDR or its partners to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material (Under Section of report called "A Note of Explanation")
b. "The U.S. Environmental Protection Agency (EPA) initially proposed the USS Lead site to the National Priorities List (NPL) in 1992 when USS Lead's parent company, Sharon Steel, filed for bankruptcy." (Pg.3)
c. "In 1996, ISDH requested ATSDR assist them in conducting an Exposure Investigation (EI) to address community health concerns and to evaluate potential exposures to lead. The EI focused on two community neighborhoods, West Calumet and Calumet. The results showed that 30.0% of the children <6 years old tested in the West Calumet and Calumet neighborhoods had blood lead levels that were > 10 µg/dL, compared to 10.9% statewide at that time (ATSDR, 1998). Based on these findings, ATSDR recommended: 1) conducting follow-up investigations of participants with an elevated blood lead level, including determining the source of exposure, determining the need for additional soil sampling, and conducting follow-up testing on all of the children; 2) providing healthcare provider education (completed in Oct. 1997); and 3) remediating lead contaminated soil at the Anaconda site. While it was ATSDR's

understanding that IDEM had scheduled the remediation, no remediation actually occurred until years later." (pg.4)

d. "In 2011, ATSDR issued a Public Health Assessment document that included a statement that declining blood lead levels in small children was an indication that breathing the air, drinking tap water, or playing in soil around the USS Lead Site is not expected to harm people's health. However, it should be noted that the statement was based on a review of blood lead data provided to ATSDR for all young children in East Chicago and did not focus specifically on the levels in children living in the residential areas within the USS Lead site." (pg.4)
e. "More recent EPA soil test results from 2014 and 2015 for the West Chicago Housing Complex and in the Calumet and East Calumet neighborhood led to renewed concerns about lead exposure to children living in these areas. This concern led to an intensive campaign beginning in July 2016 by ISDH and the East Chicago Health Department, with support from ATSDR, to conduct blood lead testing of children living in these areas, at schools, community centers, and in their homes." (pg.5)

2.) Source 2: ATSDR's 2011 PHA

a. The Public Health Assessment was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act. ATSDR collected health data, environmental data, and community health concern from the EPA, state and local health and environmental agencies, and community, and PRP's (In the Note of Explanation)
b. "The plant ceased operations in 1985. Clean-up efforts were overseen by the Indiana Department of Environmental Management. The site was proposed to the National Priorities List in February 1992, when USS Lead's parent company, Sharon Steel, filed for bankruptcy, but was never actually listed. EPA again proposed listing the site on the NPL in September 2008 and it was listed "Final" on April 9, 2009" (pg.1)
c. "The limited sampling information that is available indicates that prior to the onsite removal action in the mid-1990s, on-site soils and wastes were contaminated with lead and other metals." (pg.1)
d. "Additional sampling of surface soil from residential yards found substantial lead contamination had spread off-site as far as one-half mile to the north and northeast of the site. Ambient air monitoring, available for 1985 through 1989, indicated that elevated levels of lead were present in ambient air, both on- and off-site in 1985 when the smelter was in operation, but not since. Homes and yards to the North and Northeast of the site are safe and do not pose a health hazard from lead." (pg.1)
e. "Conclusion 2: Prior to 2006, lead contamination in yards downwind of the USS Lead site posed a public health hazard in the past for young children eating contaminated soil." (pg.2)

    i. “Basis for Conclusion 2: EPA found substantial lead in surface soil in neighboring yards to the North and Northeast of the site, prior to removing the remaining contaminated soil in 2006.” (pg.2)

f. “Conclusion 3: Breathing the air, drinking tap water or playing in soil in neighborhoods near the USS Lead Site is not expected to harm people’s health.” (pg.2)
    i. “Basis for conclusion 3: The declining blood lead levels in small children appear to confirm that they are no longer exposed to lead from any source.” (pg.2)
g. “Tests conducted in 1986 by the Indiana Department of Environmental Management (IDEM) detected elevated levels of lead in the slag” (pg.3)
h. “In 1975, USS lead received a permit under the National Pollutant Discharge Elimination system (NPDES) to discharge furnace cooling water and storm water runoff collected from the site to the Grand Calumet River. A second permit was issued in April 1985. Over the years, the permit levels for lead, cadmium, copper, arsenic, and zinc were frequently exceeded according to IDEM. In the 1980s, several state and federal enforcement actions were taken against USS Lead for permit violations. These violations, plus the dumping of slag water into the wetland contributed to past contamination of surface water in the area.” (pg.3)
i. “The RCRA Administrative Order with USS Lead was entered into in 1993” (pg.3)
j. “RCRA referred the residential areas to Superfund in 2004, which only relates to residential properties immediately to the north and northeast and within half a mile from the site. 14 residential properties were identified and had their yards remediated, but several hundred other residential yards may still be contaminated. RCRA referred the USS Lead Site (the facility property footprint) to Superfund in 2006.” (pg.4)
k. “In ATSDR’s Public Health Assessment for the U.S. Smelter and Lead Refinery2, Inc. dated August 4, 1994, the agency concluded that contamination from the site was a public health hazard. The agency also concluded there was insufficient sampling data to fully characterize the extent of the contamination, and recommended the need for further characterization of residential soil to determine the risk to human health.” (pg.4)
l. “The community to the north of the site has had several sampling events and a removal action in 2006. In May 2006, the On Scene Coordinator (OSC) from EPA oversaw a removal action of contaminated yard soil and backfill with clean soil at 14 properties in the downwind neighborhood” (pg.10)
m. “majority (>80%) of those 14 yards had concentrations that threatened the health of young children, 6 years of age and younger.” (pg.10)
n. “14 remaining downwind yards were sampled prior to a removal action. The average surface soil concentration in those yards was 870 mg/kg prior to remediation. These concentrations were probably representative of the soil concentrations in the downwind neighborhoods, prior to remediation. ATSDR

concludes that children who contact lead-contaminated soil in the past, while playing in lead-contaminated soil on unremediated yards within half a mile to the north and northeast of the USS Lead Site were at risk of health problems in the past." (pg. 14)

o. "ATSDR completed a final public health assessment for the U.S. Smelter and Lead Refinery site in 1994, which concluded that lead contamination was a public health hazard from contaminated soil both on-site and in the neighborhood to the north and northeast within half a mile. As a follow-up to data gaps identified in the 1994 public health assessment, NCEH in coordination with the Indiana State Department of Health performed blood lead testing of local residents." (pg.16)

3.) Source 3: ATSDR's 1998 EI

a. An exposure investigation is an approach that ATSDR takes in developing better ways to characterize past, current, and possible future human exposure to hazardous substances in eth environment (in the note of explanation)

b. "July 1996, the Indiana State Department of Health (ISDH) received a request from the Agency for Toxic Substances and Disease Registry (ATSDR) to assist the U.S. Environmental Protection Agency (EPA) in determining the need for public health activities in the residential neighborhoods northwest (West Calumet) and northeast (Calumet) of the U.S. Smelter and Lead Refinery, Inc. (USS Lead)." (pg.1

c. "Limited, historical EPA-generated environmental data indicate that off-site soil lead levels range from 20-11,000 parts per million. In September of 1996, USS Lead conducted a public meeting. The community posed concerns on how lead can affect human health and requested additional blood testing for people living in the West Calumet and Calumet communities." (pg.1)

d. "ATSDR issued a PHA for the site in August 1994. Recommendations listed included the need for further characterization of residential soils to determine the risk to human health. In February 1997, ISDH requested that ATSDR assist them in conducting an exposure investigation." (pg.1)

e. "Over the years, permit levels for lead, cadmium, copper, arsenic, and zinc were frequently exceeded. In the 1980s, several state and federal enforcement actions were taken against USS Lead for permit violations." (pg.2)

f. "After a review of the EPA off-site soil lead concentrations, the ISDH and ATSDR determined that the West Calumet and Calumet communities are the populations are the populations at greatest risk to exposure to elevated lead levels" (pg.2)

g. "ISDH recommended that the Indiana Department of Environmental Management (IDEM) characterize the extent of lead contamination at the old Anaconda and Eagle Pitcher sites…On July 10 and 25, 1997, six soil samples were taken from both sites and results showed soil lead levels ranging from 12-298 ppm at the former Eagle Pitcher site, and 59-1400 ppm at the Anaconda site. Only a confined area of lead contamination at the Anaconda site contained lead above the action level for lead in residential soil (400 ppm)." (pg.2-3).

h. “All individuals with elevated lead levels were contacted by phone prior to mailing their results to discuss an immediate action that needed to be taken to protect health” (pg.4)
i. Recommendations by ISDH: “(1) Conduct additional and appropriate follow up investigations of each participant with an elevated lead level, which includes: determining the sources of exposure; determining the need for additional soil sampling in yards where children with elevated blood lead levels live; conducting a confirmatory blood lead tests on the child that was test finger stick; and conducting follow up testing on all children. (2) Provide health professional training to primary care physicians and pediatricians that service these two communities. The training should focus on recognition of the signs and symptoms of lead poisoning. (3) Remediate the area of lead contamination at the Anaconda site, including the vicinity of the elementary school, to prevent current of future exposure (scheduled by IDEM)” (pg.6).

4.) Source 4: ATSDR’s 2010 PHA

a. “In February 1997, the Indiana State Department of Health (ISDH) requested that ATSDR perform an Exposure Investigation (EI), which is discussed in full on page 7. The EI was designed to address the data gaps identified in the 1994 public health assessment. More details on ATSDR’s 1998 EI are provided in the Health Outcome Data section on page 8.” (pg.4)
b. “In September 2008, the US EPA again proposed to list the USS Lead site on the NPL, due to lapse of RCRA authority. On April 9, 2009 the site was listed as “Final” on the Superfund.” (pg.4)
c. “The closest household is within one-quarter mile from the site” (pg.4)
d. “All water for drinking, commercial, and industrial uses is obtained from Lake Michigan. No private wells are in use near the site. A total of 4.1 million people obtain drinking water from intakes primarily into Lake Michigan within 15 miles downstream of where hazardous waste substances from the site enter into surface water. Lake Michigan, 3 miles south of the site, is used for fishing. The Grand Calumet River and Indiana Harbor, into which the river drains, are not fished. Hammond Beach Marina, which is used for recreation, is 4 miles west from where the canal enters Lake Michigan. Wabala Beach and several other major recreation areas are within 15 miles of the site.” (pg.7)
e. “In May 1998, ATSDR completed an Exposure Investigation which tested the blood-lead concentration of children in the West Calumet and Calumet communities to the North of the USS Lead site. Out of 98 participants, ten children had slightly elevated blood-lead concentrations between 10-20 µg/dL and 30% of children 6 years of age and under had blood lead levels greater than 10 µg/dL. Prior to 1992 more than 40% of the tested children under 6 years old in the West Calumet and Calumet communities exceeded blood-lead concentrations of 10 µg/dL. The Indiana State Department of Health (ISDH) has continued to collect blood lead data for this critical age group. The results can be seen in Table 1 and is also displayed in graphical form. A graph of historic

blood lead levels for children under 6 years of age in the surrounding community can be seen in Figure 3." (pg.7)

f. "Excess blood lead levels (EBBL) in the critical age group of children ages 0 to 6 years old appear to have fallen and are now consistent with the national average. The excellent work of the ISDH (nearly 100% testing of children in East Chicago and the abatement of lead paint in homes) and the removal of lead in gasoline are probably the reasons for the significant reduction in blood lead levels since the mid-90s" (pg.7).
g. "No community health concerns were identified through questioning of representatives of the Lake County Health Department, the US EPA, and the Indiana Department of Environmental Management." (pg.9).
h. Table 2 shows the lead concentrations in the neighborhood yards (0-1 inch depth) prior to removal action. Ranges from 92-2300mg/kg (pg.11).
i. Table 3 shows the lead concentrations in the neighborhood yards (1-6 inch depth) prior to removal action. Ranges from 120-2800mg/kg (pg.12).
j. "In the past, elevated levels of lead in soil of properties downwind from the USS Lead site along with lead from other sources increases the risk in some preschool children for having increased levels of lead in their blood. Low-level exposure to lead is expected to cause the following health effects in some children:
    i. neurobehavioral effects, such as decreased intelligence or delays in development,
    ii. impaired growth (decreased stature),
    iii. endocrine effects, most commonly altered vitamin D metabolism,
    iv. blood effects, such as changes in blood enzyme levels, and
    v. decreased performance on hearing tests."(pg.15).

5.) Source 5: Email on Blood Lead Statements, September 14, 2016

a. Email between Motria Caudill (ATSDR) and Michael Rilbordy, regarding the summary of their findings to date (email heading).
b. Blood lead testing in East Chicago is ongoing (2016) (paragraph 1).
c. They (ATSDR) reviewed preliminary results for children under the age of 6 living in the WCHC. 18 out of 94 children tested, 19 percent have an initial result above 5 ug/dL (with none above 10 ug/dL) (paragraph 1).
d. In 2015, the rate of elevated blood lead was 4 percent in all of Indiana, and 6 percent in Lake County (based on Indiana State Department of Health-including children under age of 7) (paragraph 1).
e. Method used in blood sampling for most of the testing was the "capillary or fingerstick" draw, which has a potential to overestimate actual blood lead levels. If someone has a capillary blood lead reading greater than 5 ug/dL, the East Chicago Health Department now takes a confirmation sample with the "venous draw" method (paragraph 2).

6.) Source 6: Evaluation of Release of Lead from Water Service Lines and Temporary Use of Water Filters October, 7 2016

a. From Mark Johnson (ATSDR) to Doug Ballotti (Acting Superfund Division Director, USEPA-Region 5) (email heading).
b. As EPA is conducting remediation of both the lead and arsenic contaminated soil there is a potential impact of soil-disturbing activity on released lead from the service lines into the drinking water (page 1, paragraph 1).
c. **ATSDR** made the following **recommendations to EPA**, for homes scheduled for excavation of contaminated soil (page 1, paragraph 2):
    i. Conduct a visual inspection of the water lines for each home and determine the presence of a lead service line coming into the home and lead piping within the home (page 1, paragraph 2, list #1).
    ii. Distribute point-of-use granular activated carbon filters, meeting NSF 53 standard, to be used during and after the excavation activities at all properties being remediated. Filters should be used on taps where the water is used for drinking, cooking, and preparing infant formula (page 1, paragraph 2, list #2).
    iii. Collect tap water samples prior to excavation activities (baseline), then sample the water during/shortly after the excavation activities to evaluate extent of release of lead particles in the water. One month after remediation has been completed, final water tests should be taken to verify that lead concentrations have been restored to baseline conditions. If lead concentrations aren't greater than the level before and less than 15ppb action level, then the use of a filer is no longer needed (page 2).

7.) Source 7: Blood Lead Level Summary for Action Memo, August, 8, 2016

a. From Mark Johnson (ATSDR) to Michael Ribordy (email heading).
b. The email is regarding the summary of the blood lead findings for children living in the WCHC (page 1, paragraph 1).
c. East Chicago Health Department (ECHD) testing in summer 2016, showed 12 children below age 6 years from WCHC with elevated blood lead (EBL) levels (out of 54 tested to date; represented 22 percent), based on capillary [finger stick] measurements; which may overestimate the more accurate venous sample measurements which are being recommended to ECHD for follow up (page 1, list #1).
d. Over 2014-2015, **26 percent** of the children from WCHC below age 6 were identified with EBL levels. The highest measurement was **33 ug/dL** in a young child. When comparing censuses tracts over 2015 within East Chicago, all of the children from WCHC (Zone 1) and part of Zone 2 has an EBL incidence rate of 22 percent (page 1, list #2).
e. The 1997 ATSDR Exposure Investigation conducted in the West Calumet neighborhood showed a **35 percent EBL** incidence rate, at the time, was defined as exceeding 10 ug/dL (page 1, list #3).
f. **Conclusion:** Observations over almost 20 years demonstrate a consistent pattern of elevated blood lead levels in young children living in the WCHC. Given recent verification by Indiana State Department of Health Lead Inspectors that lead-based paint is not present in these unites, it is likely that

exposure is soil-based lead contamination in WCHC is the explanation for this consistent pattern of elevated blood lead levels (page 1, paragraph 3).

8.) **Source 8: ATSDR's 1994 Preliminary PHA and Health Consultation Part 1 Summary Section:**

a. USS Lead has been operating as a primary and secondary smelting facility since 1906 and the plant ceased operations in 1985 (PDF page 1, paragraph 1).
b. Clean-up efforts were overseen by IDEM (PDF page 1, paragraph 1).
c. Limited sampling information indicated that on-site soils and wastes are contaminated with lead and other metals (PDF page 1, paragraph 2).
d. The additional sampling of the off-site surface soils indicate that contamination has spread off-site as far as one-half mile from the site (PDF page 1, paragraph 2).
e. Air monitoring between 1985 and 1989 indicates that elevated levels of lead were present in ambient air, both on and off-site in 1985, when the smelter was in operation (PDF page 1, paragraph 2).
f. Surface water and sediment on-site was also contaminated with lead and other metals, and waste oil (PDF page 1, paragraph 2).
g. Based on completed exposure pathways to lead through soil ingestion and dust inhalation, the **ATSDR concludes that contamination from the USS Lead site is a public health hazard** (PDF page 1, paragraph 2).
h. **Recommendations to reduce exposure include**: using dust-control methods during site remediation, community education regarding the health effects of lead exposure, and methods to lessen potential exposure (PDF page 1, paragraph 2).

Background:

I. An additional facility to produce **arsenic** may have existed on site (PDF page 2, paragraph 1).

Site Visit:

J. ATSDR and Indiana State Department of Health (ISDH) conducted a site visit of USS Lead on **January 19, 1993**. Also present was US EPA, IDEM, Lake County Health Department, representatives from USS Lead and Birchett Environmental Management (contractor to MMRC) (pdf page 2, paragraph 4).

K. **Observations during site visit:** a fence was installed around the site in 1991 however damage from vandalism was present, buildings on-site were unsafe because they haven't been kept up, a large portion of the wetlands had been filled with primary and secondary slag, "a black oily layer" was observed floating on the canal water and fuel odor evident in the area, old drums were seen, lead-contaminated baghouse bags were in one area (PDF page 2).

L.) Immediate vicinity of the site was inspected including: several schools, one day care, and a nursing home within 1-mile of the site. Residential areas are less than

one quarter mile away from the site. **No evidence of vegetable gardens was observed** (PDF page 3, paragraph 2).

Demographics, Land Use, and Natural Resource Use:

M.) Demographics: Approximately 7,500 people work or attend school within 2 miles of the site (PDF page 3, paragraph 3).

N.) Land Use: predominately industrial; DuPont Plant is located to the west, and a tank farm is to the south. The southern part of the site adjacent to the Grand Calumet River is swamp. Nearest residences are within one-quarter mile north of the site (PDF page 3, paragraph 4).

O.) Natural Resource Use: All water for drinking, commercial and industrial uses are obtained from Lake Michigan and **no private wells** are in use near the site (PDF page 3, paragraph 5).

Health Outcome Data:

P.) The Indiana State Board of Health conducted blood lead screening for children aged six months to six years in East Chicago, in **June 1985**, in response to ambient air monitoring results for lead in Lake County. USS lead was still in operation at the time of this study (PDF page 3, paragraph 6).

Community Health Concerns:

Q.) **No community health concerns were identified** through questioning representatives of Lake County Health Department, the US EPA, and IDEM (PDF page 3, paragraph 7).

9.) Source 9: ATSDR's 1994 Preliminary PHA and Health Consultation Part 2:

Environmental Contamination and Other Hazards:

A.) TRI was searched for information about released that may have occurred up to/and including 1987, in the area surrounding USS Lead. A large amount of metals were reportedly released into both air and water. Lead, manganese, and aluminum oxide were released in large amounts into the air (22,000 pounds, 18,000 pounds, and 48,000 pounds) (PDF page 2, paragraph 1).

On-site Contamination:

B.) **Waste Materials sorted on-site:** Calcium sulfate sludge; baghouse flue-dust containing large amounts of lead and arsenic; slag from blast furnace contaminated with lead; baghouse bags and believed to be contaminated with lead (PDF page 2, List #1-4).

C.) **On-site waste contaminants** of concern are listed on a table with the maximum concentrations and locations. Notable concentrations include: **lead**, sludge (41,000 ppm), slag pile (33,000 ppm), and flue-dust (656,000 ppm);

Antimony, flue dust (4,850 ppm); **Arsenic,** flue dust (2,440 ppm) (PDF page 2-3, Table 1).

D.) Some soil and sediment samples were taken to confirm contamination **at the site**. Arsenic surface soil (2,300 ppm), lead surface soil (160,000 ppm), antimony surface soil (1,220 ppm) (PDF page 3, Table 2).

E.) **On-site Ambient Air:** large amounts of lead-contaminated dust have been released in the past during normal operations of the smelter. The Indiana State Board of Health conducted air monitoring on-site in 1985, and they found high levels of fugitive dust and lead suspended in the air. The practice of storing baghouse flue-dust in open-air piles allowed dispersal of the dust (this ended in 1982, no data is available previous to this date) (PDF page 4, paragraph 1).

i. On-site-ambient air contaminants of concern: Lead (38.2 downwind, 0.375 upwind) (PDF page 4, Table 4).

Off-site Contamination:

F.) **Surface Soil:** Sampled for lead in **1985** by the Indiana Air Pollution Control Board, to confirm presence of lead (the number and sample set was not sufficient for characterization of the off-site areas) (PDF pg. 5 paragraph 1).

i. The source of the lead was most likely deposition of flue-dust particulates out of the air, then additional contaminations found in the flue-dust may also be present in the off-site surface soils (PDF pg. 5 paragraph 1).

ii. Surface soils at the E.C. DuPont facility contained extremely high amounts of lead [32,087 ppm, approx. 300 feet from site]. And several other off-site locations in residential areas contained high levels of lead contamination in surface soils [Intersection Melville and 152st-1,541ppm, Rehab Center-392 ppm, a playground-253 ppm, a schoolyard-106 ppm]. **Trend was that concentrations tended to decrease rapidly with increasing distance from the site** (PDF pg. 5 paragraph 1 and Table 5).

G.) **Sediment:** three samples were taken from the Grand Calumet River. Upstream lead concentrations were 350 ppm, at the mouth of the canal lead concentrations were higher at **1,177 ppm**, and at the discharge location/sewage treatment plant the concentrations were highest at **4,758 ppm**. However, it was noted several lead sources may be affecting the river (PDF pg. 5 paragraph 2).

H.) **Ambient Air:** Air monitoring for lead in off-site ambient air was conducted from 1985-1989 by IDEM and stations were placed at several locations. **In 1985, sampling at these locations showed that concentrations of airborne lead were relatively high,** average of 16.1 ug/m3 at DuPont and 1.3 ug/m3 at the rehab and post office locations (PDF pg. 6 paragraph 2).

Completed Exposure Pathways:

I.) Surface soils have become heavily contaminated with metals on and off-site. Workers were exposed to elevated levels of lead, arsenic, and other metals when USS Lead was in production. Trespassers also exposed themselves to the contaminated soils and wastes. It has also been noted that the DuPont facility has soon extremely high levels of lead in the surface soils (most likely deposited from past ambient air contaminated from USS Lead). DuPont workers were also exposed to lead-contaminated soils. **Sampling in the nearby residential area indicates that lead contamination extends at least 3,000 feet (or half a mile) to the north. Residents in this area have been exposed to soil contaminated with lead and possible the other contaminates found in the flue-dust on-site** (PDF pg.7, paragraph 5).

J.) **Ambient Air Pathways:** air sampling data indicates that lead-contaminated dusts contaminated the ambient air both on and off-site, with the highest being on-site, and trends showing a decrease with increasing distance away from the site. Air sampling focused on lead, however, most contamination probably came from particulates from baghouse and would indicate additional metals like **arsenic and cadmium** were also present at high concentrations. Limited information for non-industrial areas indicates that ambient air at these areas was also contaminated by lead (PDF page 8, paragraph 2).

K.) Individuals have been exposed to multiple contaminants at USS Lead by ingestion, inhalation, and dermal contact with contaminated soil and dust. However, data are very limited on the health effects of multiple contaminant exposure. Simultaneous exposure to contaminants that are known or probable human carcinogens could increase the risk for developing cancer. ATSDR's evaluation of exposures (multiple exposures) have not been evaluated because of the limited knowledge that exists about the toxicity from multiple exposures (PDF pg. 14 paragraph 2).

L.) **Health Outcome Data Evaluation**: ISBH conducted blood lead screening of 53 children in East Chicago (6 months to 6 years of age) in June 1985. Two children had class 2 blood lead levels (moderately increased being between 10 to 20 ug/dl) and sources of lead contamination were inconclusive when the investigated it (PDF pg.14 paragraph 3).

10.) Source 10: ATSDR's 1994 Preliminary PHA and Health Consultation Part 3:

A. **Conclusions**: USS Lead site is a public health hazard because chronic exposure to contaminated soils, wastes, and airborne dusts could cause adverse health effects (PDF page 1, paragraph 1).
   i. The contaminants are: lead, arsenic, cadmium, and antimony (PDF page 1, paragraph 1)..
   ii. Soils and air at the E.C. DuPont facility near USS Lead have been heavily contaminated with lead (PDF page 1, paragraph 1)..
   iii. Soils and air in residential areas have also been contaminated by lead, to a lesser extent (PDF page 1, paragraph 1).

iv. No conclusions can be drawn about the impact of the site on children based on the limited information (PDF page 1, paragraph 2).

B. <u>Recommendations</u> (auditor's note: it did not specify who the recommendations were directed to, however IDEM was overseeing cleanup at the site at the time) (PDF page 1, List #1-4).

i. Practice dust-control methods during all remedial activities at USS Lead.
ii. Educate workers at E.C. DuPont and nearby residents about the health effects from lead exposure, and methods to lessen potential exposure.
iii. Characterize off-site surface soils in residential areas to determine the extent of the contaminations, in terms of the size of the contaminated area and types of contaminants.
iv. Obtain more information concerning the blood lead study conducted on children in East Chicago to enhance the evaluation of the existing health data.

C. **<u>Public Health Action Plan-Actions to be taken by ATSDR and/or ISDH</u>** (PDF page 2, paragraph 1):

i. ATSDR/ISDH will attempt to get additional information for the blood lead study to enhance the 1985 data.
ii. ATSDR has a continuing role to play as an advisor and source of information for the community surrounding USS Lead, and will continue its dialogue with the community by providing health information and other site issues, and seek feedback from residents about concerns and information needs.
iii. An environmental health education program is recommended, to advise the public health professional and local medical community of the nature and possible consequences of exposure to contaminants at the USS Lead site. Obtaining a complete and accurate exposure history will be stressed as part of the program. This will be conducted by ATSDR's Division of Health Education with the local medical community.
iv. ISDH with ATSDR, will conduct a health education program to advise the community of the possible consequences of exposure to contaminants at USS Lead, with an emphasis on actions to lessen exposures.
v. ATSDR/ISDH will notify EC DuPont regarding the concerns about exposures to DuPont workers, and coordinate efforts with DuPont in determining extent of exposure. Health education of DuPont workers is emphasized.
vi. ATSDR/ISDH will cooperate with US EPA and IDEM to implement other site characterization actions.

NPL Proposal for Partial Delisting-OU1 USS Lead

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	7/31/2020	
Reviewed by:		[ ]: I reviewed this WP and found it satisfactory. (No comments were provided.) [ ]: I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. [ ]: All comments have been resolved.
Edited by:		
Morgan Collier	10/2/2020	Added Conclusion #4 for draft indexing purposes.
Morgan Collier	10/9/2020	Added Conclusion #5 for draft indexing and added information to details Source 2 #2.

Purpose: To summarize the recent updates to the East Chicago site, EPA is proposing to partially delist part of Operable Unit 1 of the USS Lead Superfund site from the NPL and the agency has opened it up for public comment.

Project Guide Step # : 41

Source(s):

#	Description/Title	Source Document
1	Source 1-EPA USS Lead Webpage	**Link: Source 1-Partial Deletion Screenshot 7.30.20.pdf**
2	Source 2-EPA Factsheet on Partial Delisting	**Link: Source 2-Factsheet July 2020 Partial Removal From NPL.pdf**

Scope: The details section gives an overview of the webpage and factsheet EPA published on the partial delisting.

Conclusion(s):

1.) EPA is proposing to delist part of the USS Lead site, in OU1 (See Details Source 2, #1).

2.) The public comment period runs until August 7th 2020, and if EPA receives comment opposes the delisting they will consider them (See Details Source 2, #2).
3.) EPA notified the public through the USS Lead website, a factsheet (English and Spanish), at information repositories, and by directly sending a letter residents whose properties were part of the delisting (See Details Source 1, #7, and Source 2, #7, #17).
4.) Properties that need to have soil clean ups completed and confirmed will remain on the NPL (See Details Source 1, #4). Link: PSSC-USS Lead East Chicago Draft Memo.docx
5.) EPA will continue an ongoing groundwater investigation at Operable Unit 2, and has provided updates in a recent newsletter and will continue to update the USS Lead webpage (See Details Source 2, #2).

Details:

Source 1-EPA Website News Update

1.) On July 28, 2020 EPA proposed removing 671 cleaned-up properties at the USS Lead Site from the Superfund NPL. EPA is taking public comments between July 8-August 7, 2020 (Source 1, summary of paragraph 1).
2.) Lead-contaminated soil has been removed from 95% of the 1,078 properties (mostly residential) in both Zones 2 and 3 (Source 1, paragraph 2, 1st sentence).
3.) EPA has confirmed that 671 of these properties meet the cleanup level required by a 2012 federal legal agreement, amended in 2018. There is no further action to take and these properties pose no unacceptable risk to human health/environment (Source 1, paragraph 2, 2nd and 3rd sentences).
4.) Remaining properties in Zones 2/3 will remain in the NPL until soil cleanups are completed/confirmed and EPA is continuing their possible groundwater contamination investigation (Source 1, summary of paragraph 3).
5.) Residential properties that are removed may be eligible for funding through the city. Delisting also enables the city to redevelop vacant lots (Source 1, summary of paragraph 5).
6.) The public can submit comments via a few methods: online, email, written comments (currently are suspended), phone (Source 1, paragraph 7, List).
7.) A factsheet describing the process, was provided on the website in English and Spanish format (Source 1, bottom of page).

Source 2- Factsheet "EPA Proposes Removing East Chicago Residential Properties from National List of Superfund Sites" July 2020

1.) EPA informed affected property owners directly about this proposed action and comment period (Source 2, page 1, paragraph 1, 5th sentence).
2.) Partial deletion only applies to OU1 and not the groundwater OU2, as this investigation is to ongoing, and updates will be available on the USS Lead webpage and in the April 2020 newsletter (Source 2, page 1, paragraph 2, 1st and 2nd sentence).

3.) Cleanup occuring at remaining properties in Zones 2/3 will continue into the 2020 construction season (pending access from property owners) (Source 2, page 1, paragraph 2, 3rd sentence).
4.) NPL does not preclude eligibility for future response actions should there be a future action at the site (Source 2, page 1, paragraph 3, 4th sentence).
5.) It will be easier to redevelop vacant lots once a property is removed from the Superfund site (Source 2, page 1, paragraph 3, 5th sentence).
6.) Partial deletion will be effective September 2020, unless EPA receives comments opposing the partial deletion by August 7, 2020 (which EPA will reconsider its proposal in light of those comments) (Source 2, page 2, paragraph 1, 4th sentence).
7.) Full proposal is available at the information repositories and in the July 8, 2020 issue of the Federal Registrar (Source 2, page 2, paragraph 1, 2nd sentence; paragraph 2,).
8.) Graphic on the process for partial deletion (Source 2, page 2, colorful graphic):
    a. Regional Office obtains Indiana Department of Environmental Management Concurrence
    b. EPA Headquarters concurs with the deletion prior to publishing in the Federal Registrar.
    c. EPA publishes a notice of intent to partially delete in the Federal Registrar and in Northwest Indiana Times.
    d. A public comment period from July 8 to August 7, 2020 provided.
    e. EPA responds to comments and, if the site continues to warrant partial deletion, publishes a partial deletion notice in the Federal Register.
9.) Explains what a partial delisting means, and that it indicates to communities that cleanup is complete and that sites are protective of human health and the environment. However, a future response action could occur EPA mentions (Source 2, page 3, paragraph 1, 2nd and 3rd sentence).
10.) All response activities for the soil at the designated properties in Zones 2/3 are complete and the soil poses no unacceptable risks to human health and the environment. EPA and IDEM determined no further response are necessary for the soil at these designated properties (Source 2, page 3, summary of paragraph 4).
11.) States that removal and remedial actions objectives/goals for the soil are consistent with Agency policy and guidance. Specifically, partial deletion meets requirements in OSWER Directive 9320.2-22. (Source 2, page 3, summary of paragraph 2).
12.) All properties aren't included because: some completion reports are not yet approved, some properties may require institutional controls (ICs) because soil above the lead cleanup remains at depth (below 24 inches), only properties in Zone 2 and 3 that have been cleaned up with no contamination at depth/sampled/cleared for residential use are proposed for deletion in this action (Source 2, page 3, summary of paragraph 7).
13.) <u>Criteria for deletion:</u>
    a. Zone 2 [222 properties] (Source 2, page 3, summary of paragraph 8).
        i. Between 2008-2011, properties cleaned up by EPA's Removal program, no ICs needed and has approved completion reports [5 properties]

ii. Properties testing clean, and no remedial action needed, and sampling reports approved [58 properties]
iii. Between 2016-2019, properties cleaned, no ICs needed and with approved completion reports -159 properties]

b. Zone 3 [449 properties] (Source 2, page 3, summary of paragraph 9).

i. Properties testing clean, and no cleaned needed/sampling reports approved [178 properties].
ii. Between 2016-2019, properties cleaned, no ICs needed /with approved completion reports [271 properties]

14.) EPA stated that they notified those whose properties that were included in the proposed partial delisting via a letter (Source 2, page 3, summary of paragraph 10).

15.) 2020 Construction is continuing and contractors are implementing protocols related to COVID-19 at the site (Source 2, page 3, blue box, 4th sentence).

16.) EPA provides some general background about the site and three zones (Source 2, page 4).

17.) Auditor's note, a Spanish translated version of the factsheet is also provided to viewers on the EPA's USS Lead site webpage.

Cleanup Plans for the USS Lead Superfund Site

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	7/22/2020	
Reviewed by:		[ ]: I reviewed this WP and found it satisfactory. (No comments were provided.) [ ]: I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. [ ]: All comments have been resolved.
Edited by:		

Purpose: To summarize cleanup plans for the USS Lead Superfund site in East Chicago, Indiana. Highlighting any risk communication or human health information in those documents.

Project Guide Step # : 41

Source(s):

#	Description/Title	Source Document
1	Source 1-Proposed Plan	Link: **Source 1-PROPOSED PLAN FOR OPERABLE UNIT 1 July 2012.pdf**
2	Source 2-Proposed ROD Amendment	Link: **Source 2-Proposed ROD OU1 Amendment.pdf**
3	Source 3-Final ROD	Link: **Source 3-USS Lead Final ROD.pdf**
4	Source 4-Public Meeting Transcript	Link: **Source 4-[REDACTED] Transcript of July 25, 2012 Public Meeting for the Proposed Cleanup Plan.pdf**
5	Source 5-ROD Amendment 2020	Link: **Source 5-ROD Amendment USS Lead Zone 1 2020.pdf**

Scope: The details section gives an overview of the cleanup plans, as it relates to the East Chicago community living near the USS Lead Superfund site.

Conclusion(s):

1.) According to EPA, the agency site team implemented interim risk measures to mitigate immediate exposure to contaminated soils. Examples cited include working with ECHA to reduce sources of dust at WCHC and covering exposed soils with mulch and conducting interior removal actions (See Source 2, Details Section 8).
2.) Uncertainty in the preference of how Zone 1 would be used in future land use operations was communicated to EPA by the City of East Chicago (See Source 2, Details Section 9).
3.) EPA held a public meeting on July 25, 2012 to present the Proposed Plan to the public. In addition, according to EPA the agency also mailed a fact sheet to area residents informing them about the Proposed Plan and informed them that the documents were in the repositories. The factsheet also included the date, time, and location of the public meeting (See Source 3, Details Section 5).
4.) Several individuals commented on the November 2012 final ROD that EPA should conduct medical testing of residents in the area, particularly lifelong residents. EPA's response was that EPA does not intend to conduct medical testing as part of the remedy and further that ATSDR is the primary responsibility at the federal level for performing health assessments (See Source 3, Details Section 17).
5.) Individuals also commented on the November 2012 final ROD that areas in the RI/FS that EPA's data analysis is not transparent and that it is difficult to follow EPA's calculations (See Source 3, Details Section 19-20).
6.) Based on the July 2012 transcript, during the EPA's public meeting they did mention some risk communication practices when they provided recommendations on managing dust properly, and if you are working in the garden to make sure you brush off the dust before you leave the garden, wash your hands, keeps shoes outside (See Source 4, Details Section 9).
7.) A concern was voiced at the July 2012 meeting about how renters and people leaving/coming into the area, and the attendee wondered how EPA was educating those people (See Source 4, Section 11).
8.) Based on communications EPA has received, the agency has concluded it is likely the end use of modified Zone 1 will change from residential to commercial/industrial use and the 2020 ROD Amendment should reflect this (See Source 5, Details Section 12). Link: PSSC-USS Lead East Chicago Draft Memo.docx
9.) According to EPA, the agency has met the public participation requirements set out in NCP, 40 C.F.R Section 300.435(c)(2)(ii) (See Source 5, Details Section 20).
10.) Several public comments in response to the 2020 ROD Amendment expressed concerns that EPA is not considering public preference for this ROD Amendment (See Source 5, Details Section 21 a-g).
11.) In response to the 2020 ROD Amendment, there was a suggestion that ATSDR should develop a health surveillance program in coordination with IDEM, Indiana Family Social Service Administration, and the East Chicago Department of Health and other partners to establish a USS Lead Site Registry to ensure that all impacted people can participate in health studies and screenings (See Source 5, Details Section 29a).

Details:

Source 1-Proposed Plan-Operable Unit 1

1.) Identifies the preferred alternative for OU1, and list IDEM as the support agency (page 1, paragraph 1, sentences 1, 3).
2.) Public meeting will be held on July 25, 2012 to explain the proposed plan (page 1, box).
3.) The East Chicago area in the vicinity of OU1 and OU2 has historically supported a variety of industries, EPA has concluded that other industrial operations may have managed lead and other metals (page 2, paragraph 6, 1st sentence).
4.) 1993 USS Lead began cleaning up OU2 under agreement under RCRA (page 3, paragraph 2, 1st sentence).
5.) Modeling of air deposition of lead in the residential area was performed (page 3, paragraph 2, last sentence).
6.) EPA evaluated 7% of properties as part of the full-scale remedial investigation and identified properties with lead concentration in surface soils greater than 1200 milligrams per kilogram, which pose an imminent and substantial threat to human health (page 3, paragraph 3, sentences 4-7).
7.) The EPA emergency response program addressed the highly contained parcels by removing contaminated soils and backfilling areas with clean fill soils. A total of 29 properties were remediated by the Superfund emergency response program between 2008-2011 (page 3, paragraph 3, last 2 sentences).
8.) Between December 2009-August 2010, EPA collected surface and subsurface soil samples from 88 properties (evenly distributed over OU1) (page 4, paragraph 5, Sentences 1-2).
9.) Highest arsenic and lead concentrations measured at OU1 were found in the East Chicago Housing Authority complex (page 5, paragraph 2, sentence 3)
10.) There's a box labeled "constituents of concern" and it lists two contaminants that EPA and IDEM have identified as the greatest risk to human health being lead and arsenic. For lead, it was detected in surface and subsurface soil up to 9,406 mg/kg concentrations. For arsenic, it was detected in surface and subsurface soil at concentrations up to 567 mg/kg. A list of health effects is provided for both (page 5, box).
11.) EPA conducted a baseline HHR to evaluate current and potential future effects on human health of contaminant concentrations in soil at OU1 (Page 5, paragraph 5, 1st sentence).
12.) Health risks were primarily driven by lead concentrations in soil. Greatest health risk is direct contact and inhalation of lead-contaminated soil. Gardens and eating produce from them can also be ways to ingest lead (page 6, paragraph 2, sentences 1-3).
13.) Residential properties with an average lead concentration in soil greater than 400 mg/kg were identified as presenting potential lead risks to residential receptors (page 6, paragraph 4, last sentence).
14.) The concentration of 26 g/kg was taken as the upper bound of the naturally occurring arsenic concentrations in soil at OU1 (page 7, paragraph 1, last sentence).

15.) 43% of properties sampled exhibit risk for lead only for the RSL, 20% of residential properties tested exceeded the RSL and UTL for both lead and arsenic (page 7, paragraph 2, last sentence; paragraph 3, second sentence).
16.) Threshold criteria goes through each alternative for the proposed cleanup and the overall protection of human health and the environment. Alternative 3, 4A, and 4B are expected to be effective remedies (page 10, paragraph 7).
17.) Summary of preferred alternative: alternative 4A is preferred because is immediately prevents exposure to contaminated soils that pose a risk to residents; prevents future exposure to residents with minimal potential restrictions on property use; allow current land uses to continue (page 13, paragraph 8).
18.) EPA and IDEM is providing information about the cleanup of the USS Lead site via public meetings, Administrative Record, site repository, and announcements in local newspapers (page 13, last paragraph).

Source 2-Proposed ROD Amendment-November 2018

1.) Proposed amendment for a new preferred remedial alternative for the West Calumet Housing Complex (WCHC), Goodman Park, and a utility corridor (Zone 1) (page 1, paragraph 1).
2.) Scope in 2012 was to "yards" and contaminated soil under "hardscapes" were not covered (page 1, paragraph 2).
3.) The East Housing Authority applied to HUD in 2016 for approval to demolish WCHC, to which it was granted in September 2017. With the demolition completed there are no longer impermeable barriers to contamination and the amendment is looking to address the risks associated with this (page 2, paragraph 1).
4.) The preferred alternative 4B is discussed, as EPA states from experience 24 inches of clean soil will generally prevent direct human contact and exposure to contaminated soil left at depth. And gardening is the only typical activity extending below 12 inches (page 2, paragraph 2-3).
5.) The City of East Chicago sent a letter to EPA indicating that some areas in Zone 1 may be redeveloped to commercial/industrial use so alternative 4A also is included for discussion (page 3, paragraph 3-4).
6.) From November 2014 to April 2016 EPA performed remedial design activities in Zone 1 to determine the extent of contamination in yards of properties and upon review of validated data EPA determined practically all WCHC yards required remediation. In May 2016 EPA informed EPA Housing Authority and the City of East Chicago of these findings. (page 7, last paragraph).
7.) In July 2016, City of East Chicago sent a letter to WCHC resident recommending that they relocate from WCHC and at the same time ECHA began an application to HUD for approval to demolish WCHC. EPA determined remediating WCHC impractical because of relocations and demolitions occurring, as well as the removal of hardscapes would re-contaminate properties EPA had remediated (page 8, paragraph 2).
8.) EPA implemented interim risk measures to mitigate immediate exposure to contaminated soils, examples include working with ECHA to reduce sources of dust at WCHC and covering exposed soils with mulch. EPA also determined WCHC residents were tracking

lead-contaminated soils into their apartments, so EPA did interior removal actions (page 8, paragraph 3).

9.) In a September 10, 2018 letter to EPA Regional Administrator Cathy Stepp, the mayor of East Chicago stated a preference for integrating the modified Zone 1 cleanup with a private industrial and commercial redevelopment proposal, and indicated that two developers expressed an interest in redeveloping Zone 1 (page 10, paragraph 2). On a subsequent call with EPA, the mayor clarified that the City wanted modified Zone 1 to be cleaned up to residential standards in the event that the current redevelopment plans did not materialize (page 10, paragraph 3). Because of the uncertainty of future land use EPA included alternative 4A that is protective of human health and environment under commercial /industrial use (page 10, paragraph 4).

10.) The threshold criteria goes through each alternative and discusses the overall protection of human health and the environment (page 17-18).

11.) Brief description of the proposed amendment will be published in the local newspaper and an electronic copy of the proposed amendment will be available online. EPA will also host a public meeting with a 60 day public comment period (page 23).

Source 3- Final ROD-Operable Unit 1-November 2012

1.) States that OU1 contains residential yards contaminated with lead and arsenic at levels that pose a threat to human health via ingestion, inhalation and direct contact (page 3, sentence 3).

2.) Remedial action levels at OU1 are 400 mg/kg for lead at residential and 800 mg/kg for lead at industrial/commercial properties, and 26 mg/kg for arsenic at both residential and industrial/commercial properties (page 3, sentence 5).

3.) In the future EPA will develop a remedial investigation/feasibility study, proposed plan, and ROD for OU2 (page 4, paragraph 5, sentence 2).

4.) Residential area that compromises OU1 has been contaminated by aerial deposition of windblown contaminants from the USS Lead facility and other local industrial facilities and by direct deposition of contaminated fill materials (page 7, paragraph 2, 1st sentence).

5.) RI/FS reports and the Proposed Plan for the USS Lead Site were made available to the public in early July 2012 and are in the administrative record. EPA held a public meeting on July 25, 2012 to present the Proposed Plan (EPA mailed a fact sheet to area residents informing them about the Proposed Plan and that the documents were in the repositories; it also included the date, time, and location of the public meeting). At the meeting, EPA and IDEM representative answered questions about the site/remedial alternatives, and EPA's responses to comments are included in the ROD (page 9, paragraph 3).

6.) Highest arsenic concentration in soil during RI was 567 mg/k, although was often below 100 mg/kg (page 10, paragraph 1, second sentence).

7.) Conceptual site model considers four potentially affected media at the site: air, soil, surface water, and groundwater (page 10, paragraph 2, sentence 1).

8.) Contaminants were deposited at OU1 through airborne emissions from industrial plants (page 10, paragraph 3, sentence 1).

9.) Human and ecological receptors can be exposed to the COIs through direct dermal exposure to soil, inhalation of windborne soils, ingestion of soils, or ingestion of product grown in affected soils (page 11, paragraph 4, sentence 1).
10.) Lake Michigan is the municipal water source for East Chicago, and properties within OU1 do not access site-wide groundwater for any use (page 14, paragraph 6, sentence 1).
11.) EPA considers East Chicago an environmental justice community. An environmental justice community is one characterized by low income and burdened with significant environmental challenges (page 15, paragraph 2, sentences 3-4).
12.) Max concentrations of lead detected in OU1 was in residences soil at 27,100mg/kg for lead and 567 mg/kg for arsenic (page 17, Table 1).
13.) Lead poses a risk to residents at 47 of the 74 residential properties that were tested as part of the HHRA (page 31, paragraph 7).
14.) Lead poses a risk at Goodman Park and Kennedy Gardens Park (page 33, paragraph 3, bulleted list #2-3)
15.) EPA has identified the RAO for OU1: reduce to acceptable levels human health risk from exposure to COCs (lead and arsenic) in impacted surface and subsurface soils, through ingestion, direct contact, or inhalation exposure pathways, assuming reasonably anticipated future land-use scenarios (page 35, paragraph 4).
16.) EPA has estimated that approximately 7% of the soils at OU1 have lead concentrations that exceed the TC threshold and that would therefore be considered hazardous wastes (page 44, paragraph 6, sentence 1).
17.) Several persons commented that EPA should conduct medical testing of residents in the area, particularly lifelong residents. One commenter stated that she is a life-long resident of the area and suffer from illnesses. EPA's response: EPA does not intend to conduct medical testing as part of the remedy. ATSDR is the primary responsibility at the federal level for performing health assessments (page 52, bottom of page; page 53, top of page).
18.) A commenter requested that EPA conduct health studies on residents in conjunction with implementation of the remedy. Part of EPA's response was that EPA does not conduct health studies as part of the remedy selection process (page 53, paragraph 2-3).
19.) One commenter states that there are areas in the RI/FS that EPA's data analysis is not transparent (page 57, paragraph 5).
20.) One commenter states that it is difficult to follow EPA's calculations (page 57, paragraph 7).
21.) Conceptual Site Model Figure of USS Lead site (page 62).

Source 4-Public Meeting Transcript-Propose Cleanup Plan July 25, 2012

1. Explained that "parts per million", was like saying one part per million is one drop of water in a large barrel of water (page 11, Transcript Line 11-13).
2. Attendee asked whether any public health studies would be associated with the EPA's investigation. Response: EPA didn't conduct any health studies but talked with local health department (page 35, Transcript Line 17-18; page 36, Transcript Line 8-10).

3. Attendee asked who told EPA about the site and asked if there have been deaths noted for arsenic and lead poisoning (page 37, Transcript Line 10, 12-13).
4. Attendee asked why two inches (of soil) are taken from the front yard and not the backyard. [Auditor's note, EPA goes on to explain the rationale during meeting] (page 37, Transcript Line 23-24).
5. Attendee asked about the health concerns and the length of time lead and arsenic contamination has been in the ground in relation for individuals that have been living in the area for a long time (page 39, Summary of Transcript Lines 13-20).
6. Attendee was concerned about where the contaminated soil was going and where the new clean soil was coming from (page 41, Transcript Lines 21-24).
7. An attendee asked if atmospheric tests were run and if there was any contamination of the air with arsenic and lead? Response: air sampling was done, and EPA staff did not recall finding anything and that it was mostly historical (page 51, Transcript Lines 19-20; Transcript Lines 21-23).
8. An attendee asked if anybody from EPA would like their kids go in the backyard? Response: have some kind of cover between in between the soil and yourselves (page 54, Transcript Lines 1-3; Transcript Lines 13-14).
9. Recommendations EPA made during the meeting: manage dust properly, if you are working in the garden make sure you brush off the dust before you leave the garden, wash your hands, keeps shoes outside (page 54, Transcript Lines 19-24).
10. An attendee asked how often EPA meets with residents and when was the last time they have met with them? Response: meet periodically, it was more intense earlier on and it is hasn't been done as much recently (page 56, Transcript Lines 8-10; page 56, Transcript Lines 11-14).
11. An attendee was concerned about renters and people leaving/coming in, and wondered how EPA was educating those people if they weren't meeting monthly or often with them? Response: EPA provide materials/information to different facilities like the MLK center. In addition, EPA left fact sheets there (pg. 57, Transcript Lines 3-9; pg. 15, Transcript Lines 10-15).
12. EPA stated that they have good communication with the City of East Chicago (pg. 58, Transcript Lines 3-4).
13. Concerns brought up about a cancer cluster survey being conducted in the area (pg. 60, Transcript Lines 12-15).
14. Concerns brought up about the future generations and the contaminated soil (pg. 62, Transcript Lines 20-23).
15. Questions on how far back the contamination goes and if there are major health issues the people want to be informed (pg. 72, Transcript Lines 18-24).
16. Community member had a suggestion to have collaboration that additional testing could be done (pg. 73, Transcript Lines 3-5).

Source 5- ROD Amendment for Zone 1, 2020

1.) This ROD only addresses a portion of OU1 and does not address OU2 (pg. 1, paragraph 1, last sentence).

2.) This ROD is modifying the remedy for the remainder of Zone 1, including area encompassed by the former WCHC, Goodman Park, and a utility corridor in the western part of OU1. This modification of the November 30, 2012 ROD is consistent with CERCLA and NCP. Considerations include State and public comments, as well as Letter of Intent from the City of East Chicago that the land will be commercial/industrial and not residential (pg. 1, paragraph 3). Link: PSSC-USS Lead East Chicago Draft Memo.docx

3.) EPA has selected preferred remedy Modified Alternative 4B. The ROD Amendment also sets forth a contingent remedy Alternative 4A if EPA determines that the future land use will become commercial/industrial (pg. 1, paragraph 4; pg.3, paragraph 1).

4.) Remedy in this ROD amendment addresses risk to human health and environment posed by contaminated soils (pg. 2, paragraph 3, 6th sentence).

5.) Between November 2014 and April 2016, EPA began remedial design work in Zone 1 and 3 and collected approximately 1,000 soil samples in Zone 1. After reviewing validated data EPA determined that practically all the WCHC yards required remediation. (pg.6, last paragraph).

6.) Instead of cleaning up WCHC soils in 2016, EPA implemented interim risk reduction measures to reduce immediate exposure to contaminated soils by residents of the WCHC, to include: education and intensive community outreach; placement of mulch over exposed soils to serve as a barrier; and modification of ECHA lawn mowing practices to reduce dust (pg.7, paragraph 3).

7.) EPA is investigating groundwater under the entire USS Lead Site and will evaluate options once the investigation is complete (pg.9, paragraph 1).

8.) With the demolition of WCHC, buildings and hardscapes no longer act as a barrier for inhalation/ingestion/direct contact with contaminated soils, hardscapes were also demolished in Goodman Park (pg. 9, paragraph 2; pg.10, paragraph 2).

9.) September 10, 2018 the City advised EPA it anticipated that Zone 1 will be provided with industrial and commercial opportunities. EPA issued a Proposed Plan for modified Zone 1 on November 11, 2018, giving EPA flexibility to choose a remedy for future land use whether it was residential or commercial/industrial (pg.10, paragraph 2).

10.) November 29, 2018, EPA held a public meeting for the Proposed Plan (pg.10, paragraph 3).

11.) January 14, 2019 City submitted written comments for the Proposed Plan that the preference was that Zone 1 will continue to be used as residential, and Lake County Indiana Economic Alliance submitted comments stating that there was a preference for flexibility as there was interest in commercial/industrial purposes. A few months later, a Letter of Intent was submitted from the City and ECHA that none of the property will be used for residential purposes (pg.10, paragraphs 4-6).

12.) Based on communications, EPA has concluded it is likely the end use of modified Zone 1 will change from residential to commercial/industrial and the ROD Amendment should reflect this (pg. 10, last paragraph).

13.) EPA is not going to revise the assessment of risk to human health because the same risks existing in 2012 exist today (pg. 12, last paragraph).

14.) Ingestion of contaminated soils within modified Zone 1 is a primary exposure route under either residential or commercial use scenarios, residents can be exposed to contaminants in soils through ingestion of homegrown product or through direct ingestion of contaminated soil [children digging and playing in soil can ingest soil contaminated with lead and arsenic] (pg. 26, paragraph 1, sentences 1-3).

15.) Direct contact can also come from property maintenance activities, recreational activities, gardening, landscaping, or excavating (pg. 26, paragraph 2, 1st sentence).

16.) Some soils within modified Zone 1 exceed toxicity characteristic of the regulatory threshold 5 mg/L and are considered principal threat wastes because of potential to leach and migrate to groundwater (pg. 28, paragraph 4, sentences 1-2).

17.) Responsiveness Summary in Appendix A contains EPA's response to the public's comments received during the comment period (pg.31, paragraph 4, 1st sentence).

18.) EPA is hopeful that the benefits of modified 4B will find broader community acceptance (pg. 32, paragraph 3, 1st sentence).

19.) EPA explained that future land use determinations are not made by EPA and are generally made by the level of local government. EPA remedy selection reflects the expressed desire of the local government and is consistent with the local government's interest in retaining its authority to determine the future land use of contaminated properties within its jurisdiction (pg.33, paragraph 2, sentences 3-5).

20.) EPA has met the public participation requirements set out in NCP, 40 C.F.R Section 300.435(c)(2)(ii): agency issued a notice of availability of the proposed amendment to the ROD in the local newspaper, EPA posted the proposed ROD Amendment on the USS Lead internet web page and placed copies in all Administrative Record repositories. There was a public comment period, EPA held two public meetings to present EPA's preferred remedy and receive public comments (transcripts of the meeting and comments have been made public). Appendix A contains a Responsiveness Summary where EPA responded to all oral and written comments (pg.38, summary of last paragraph).

21.) <u>Comments/Concerns from the public on the process:</u>

a. The public participation process for this amendment has failed to afford all residents an opportunity to present oral comments (Appendix pg.1, paragraph 3).
b. More public meetings are needed between residents and East Chicago city and school officials (Appendix pg.2, paragraph 2).
c. EPA should be responsive to the people of East Chicago and that simply leaving a decision regarding the future use of modified Zone 1 to the owners is totally insufficient (Appendix pg.2, paragraph 4).
d. The contingency provisions within Alternative 4B allows EPA to circumvent further public input by allowing EPA to switch plans after the expiration of the comment deadline (Appendix pg.2, paragraph 6).
e. EPA has failed to sufficiently solicit and incorporate community input regarding the members of the community's preferred use of Zone 1 (Appendix pg.4, paragraph 8).
    i. EPA's response: EPA's role is primarily to protect human health and the environment. Community acceptance is one criterion, EPA cannot dictate

to the property owners the preferred future use. CERCLA does not authorize EPA to solicit and incorporate community input regarding the preferred future use of modified Zone 1 (Appendix pg.4, paragraph 9; pg.5, paragraph, pg.1).

f. EPA will ignore the voice of the community and fail to consider meaningfully the community acceptance criterion if it selects remedy Alternative 4B (Appendix pg.5, paragraph 2).
g. EPA continues to downplay and dismiss the seriousness of the contamination in Zone 1 (Appendix pg.5, paragraph 4).

22.) <u>Comments/Concerns from the public on the selected remedy:</u>

a. EPA's selection of Alternative 4B represents a preference for polluters over impacted people and the environment (Appendix pg.8, paragraph 2).
b. EPA's preferred remedy does not meet the threshold criteria of adequately protecting human health and the environment (Appendix pg.8, paragraph 4).
c. Citizens, community leaders and organizations in and around East Chicago are very concerned about the selection of Modified Alternative 4B because it lacks sustainable protectiveness, permanence, and community acceptance. EPA should use this opportunity to do the following (Appendix pg.10, paragraph 4, subsequent list a-f):
    i. Overcome the belief many have that choosing Modified Alternative 4B, the EPA is expressing to the community EPA values the polluters' interests more than the public health and wellbeing of the residents.
    ii. Clean the site in a way that will make it safe for future use by selecting the most protective remedy-option 4D.
    iii. The EPA has inadequately at best, engaged the community or local government about potential ICs as recommended in your guidance. The EPA needs to show the community they truly care about its options and engage with the community at a higher more open and transparent level.
    iv. The EPA should address groundwater contamination now.
    v. The past and on-going health issues of the residents, including the children and seniors will not be addressed with the cursory 24-inch residential standard since it has been shown in numerous way to not be sufficient depth for total depth. ATSDR and EPA should be very concerned about the impact on people as well as the environment (Appendix pg.11, list #i).

23.) <u>Comments/Concerns from the public on community acceptance of the selected remedy:</u>

a. EPA's preferred remedy, Alternative 4D, lacks community acceptance (Appendix pg.20, last paragraph).

24.) <u>Comments/Concerns from the public on future land use:</u>

a. Future residents may not have the knowledge of the contamination or the wherewithal to modify their activities to avoid the contamination (Appendix pg.23, last paragraph).

25.) <u>Comments/Concerns from the public on Carrie Gosch:</u>

a. EPA needs to do more to investigate conditions at the Carrie Gosch School (pg.26, paragraph 4).

26.) **Comments/Concerns from the public on groundwater:**

a. EPA must consider groundwater in the proposed ROD Amendment because it is part of the environment (pg.26, paragraph 7).

27.) **Comments/Concerns from the public on adequacy of the investigation:**

a. In 1989 there was an agreed order between IDEM and USS Lead to identify the full extent of contamination at the site and additional to determine what remedial action will be performed to ensure removal of all contamination. Neither EPA nor IDEM have completed a full investigation (pg.30, paragraph 3).
b. EPA needs to comprehensively investigate and map the full extent, breadth and depth of contamination within the USS lead site and determine if the current removal and remedial actions are effective over the long-term in protecting human health and the environment and meet the requirements of Superfund to achieve a permanent remedy (pg.32, paragraph 2).
c. EPA and IDEM have not adequately tested the USS Lead Superfund site and adjacent areas for dioxin-like compounds (pg.32, paragraph 4).

28.) **Comments/Concerns from the public on appropriate cleanup standard:**

a. Several commenters stated a preference for requiring cleanup to residential standards (pg.34, paragraph 1, 3, 5).

29.) **Comments/Concerns from the public on evaluation of risk**

a. ATSDR should develop a health surveillance program in coordination with IDEM, Indiana Family Social Service Administration, and the East Chicago Department of Health. It should also work with other partners to establish a USS Lead Site Registry to ensure that all impacted people can participate in health studies and screenings (pg.39, paragraph 3).
b. EPA should have evaluated the risk after demolition was completed since the barriers to exposure were removed and increased migration of contaminants due to more exposure of more land area after demolition (pg.39, paragraph 5).
c. EPA should "identify whether a particular stakeholder group may be harmed as a result of a proposed IC" (pg.42, paragraph 6).
d. Residents, community groups and the city are unable to assess fully the impact of EPA's planned ICs and are thus unable to comment on their implementation without specific information about potential ICs (pg.43, paragraph 8).

30.) **Comments/Concerns from the public on wildlife considerations**

a. EPA should consider whether the documented presence of a bald eagle nest in nearby Operable Unit 2 of the USS Lead Site alters the conclusion that no ecological risk assessment is needed for the proposed ROD Amendment (pg.46, paragraph 5).

31.) **Comments/Concerns from the public on enforcement critique**

a. Zone 2 should have been part of the 2014 Consent Decree and should not have been addressed through Unilateral Administrative Orders issued in 2017. The ROD Amendment should treat all of the residential areas of the USS Lead

Superfund site equally and comprehensively as one Superfund site (pg.50, paragraph 2).

USS Lead Community Concerns/Questions

NAME	DATE	Comments
Prepared/Completed by: Morgan Collier	4/27/20	
Reviewed by: Bakari Baker	5/27/20	**[X]:** I reviewed this WP and found it satisfactory. (No comments were provided.) **[ ]:** I reviewed this WP and found it satisfactory. I also included **comments in a dark red colored font**. **[ ]:** All comments have been resolved.
Edited by:		

Purpose: To summarize community questions that were provided to EPA staff. The OIG team reviewed those questions during our site review for the USS Lead Superfund site in East Chicago, Indiana.

Project Guide Step # : 41

Source(s):

#	Description/Title	Source Document
1	Source 1-Community Concerns from 2006	Link: Source 1- 2006 Community Concerns and Questions for EPA.pdf

Scope: The details section gives an overview of the key points from the community questions listed below, as it relates to risk communication activities occurring at the USS Lead Superfund site.

Conclusion(s):

1.) Multiple questions were asked about the sampling process [See Source 1, Questions 1, 2, 3, 7, 27, 28, 29, 30, 31, 32].
2.) There were concerns raised about impacts to property values and future land use [See Source 1, Questions 6 and 8].
3.) There were safety concerns related to human health and growing crops in yards [See Source 1, Questions 4, 5, 10, 14, 15, 16].
4.) There were also questions as to why the community wasn't alerted earlier and why now [See Source 1, Questions 17, 18, 25].

Details:

1.) Source 1-Community Concerns from 2006

Event Information: USS Lead Public Availability Session-Carrie Gosch Elementary-March 23, 2006 (3-6 pm)

Primary Questions and Concerns:

1) When are you going to sample my yard?
2) When will I get sample results so I know if my yard is safe?
3) How long before you start digging in my yard? How long?
4) Is my yard safe for my yard?
5) What level is safe for my yard?
6) How is this going to impact property value?
7) How long is this going to take (full)?
8) What is going to happen in the future at the USS Lead property?
9) What is that by hill on the USS Lead property?
10) How does gardening get impacted?
11) Is the money there?
12) Who is going to pay for this?
13) How much $$?
14) Can I eat my garden veggies?
15) What does lead do to my kids/me?
16) Since I have lived here over 40 years, what health affects should I be having?
17) Why did it take you so long to get here?
18) Who caused you be here?
19) Can we have meetings at a more comfortable location?
20) What is going to happen to trees, shrubs, decks, pools, fencing, etc.?
21) Sidewalks and driveways?
22) You should have name tags!
23) Timely notification!!!
24) Spanish before English mailings
25) What took you so long to get here since you knew about the contamination many years ago (1985/1993)?
26) How about lead migrating down through the soil due to rain?
27) How deep do you sample?
28) How much soil sample is taken?
29) Has sampling been performed in public areas that would NOT be known by the residents?
30) What happens if my neighbor won't sign an access agreement for sampling/cleanup?
31) Where will you get the clean soil?
32) How do you know that this soil is clean?